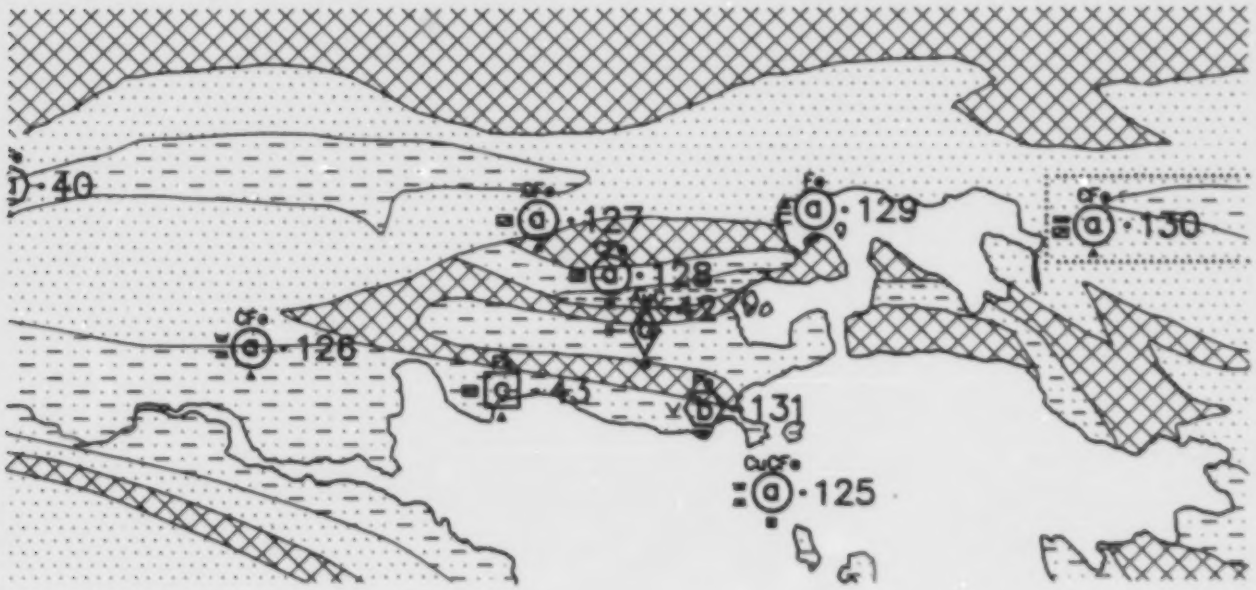
Mineral Deposit Series

Report No. 15



Mineral Deposits and Occurrences in the Aikens Lake Area, NTS 52M/3

by P. Theyer

Manitoba
Energy and Mines
Geological Services

Contribution to programming conducted under the
Canada-Manitoba Mineral Development Agreement

92-00519/

Manitoba
Energy and Mines
Geological Services

Mineral Deposit Series

Report No. 15

Mineral Deposits and Occurrences in the Aikens Lake Area, NTS 52M/3

by P. Theyer

Energy and Mines

Hon. Harold J. Neufeld
Minister

Ian Haugh
Deputy Minister

Geological Services

W. David McRitchie
Director

This publication is available in large print, audiotape or braille on request

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Methodology	1
Format of Mineral Deposit Maps	1
Format of Mineral Deposit Reports	2
Abbreviations	2
Acknowledgements	3
GEOLOGY OF AREA 52M/3	5
SELECTED BIBLIOGRAPHY	6
MINERAL DEPOSITS AND OCCURRENCES: AIKENS LAKE AREA (52M/3)	9
Location 1 (Jeep Mine)	9
Location 2 (Conley)	13
Location 3 (Gatlan)	17
Location 4 (Hodgins)	21
Location 5 (Johnston)	23
Location 6 (Twin Bays)	28
Location 7 (Twin Bays I. F.)	31
Location 8 (Moore Vein)	33
Location 9 (North of Wanipigow)	37
Location 10 (Banning trench)	39
Location 11	41
Location 12 (E of Banning)	43
Location 13	45
Location 14	47
Location 15 (Boundary zone)	51
Location 16	53
Location 17	55
Location 18	57
Location 19	59
Location 20	61
Location 21	63
Location 22 (Lauson Pit)	65
Location 23	67
Location 24 (Vandebrink)	71
Location 25	73
Location 26 (Spacemaster-Wallace Lk)	75
Location 27 (I. F. Spacem. Siderock Lk)	77
Location 28 (Schmirf)	79
Location 29 (Smoky)	81
Location 30 (Eagle)	83
Location 31 (D 2)	85
Location 32 (Excelsior)	87
Location 33 (Alec)	89
Location 34 (Hope)	91
Location 35 (Willi)	93
Location 36 (Crown)	95
Location 37 (Pooky)	97
Location 38 (IMP Group; Bennett Lake)	99
Appendix A: Occurrence locations recorded on airphotos	101

FIGURES

Figure 1:	Location of mineral deposits and occurrences (52M/3)	4
Figure 1-1:	Geological setting of occurrence 1	8
Figure 1-2:	Detailed geology, underground workings, and drill hole locations at occurrence 1 (Jeep Mine)	10
Figure 2-1:	Geological setting of occurrence 2 (Conley)	12

Page

Figure 2-2: Detailed geology at occurrence 2 (Conley) 14
Figure 3-1: Geological setting of occurrence 3 (Gatlan) 16
Figure 3-2: Detailed geology at occurrence 3 (Gatlan) 18
Figure 4-1: Geological setting of occurrence 4 (Hodgins) 22
Figure 5-1: Geological setting of occurrence 5 (Johnston) 24
Figure 5-2: Regional geochemical sampling program (Jeep-Johnston area) 27
Figure 6-1: Geological setting of occurrence 6 (Twin Bays) 29
Figure 7-1: Geological setting of occurrence 7 30
Figure 7-2: Detailed geology at occurrence 7 32
Figure 8-1: Geological setting of occurrence 8 (Moore vein) 34
Figure 8-2: Detailed geology at occurrence 8 (Moore vein) 35
Figure 9-1: Geological setting of occurrence 9 36
Figure 10-1: Geological setting of occurrence 10 38
Figure 11-1: Geological setting of occurrence 11 40
Figure 12-1: Geological setting of occurrence 12 42
Figure 13-1: Geological setting of occurrence 13 44
Figure 13-2: Detailed geology at occurrence 13 46
Figure 14-1: Geological setting of occurrence 14 48
Figure 14-2: Detailed geology at occurrence 14 49
Figure 15-1: Geological setting of occurrence 15 50
Figure 16-1: Geological setting of occurrence 16 52
Figure 17-1: Geological setting of occurrence 17 54
Figure 18-1: Geological setting of occurrence 18 56
Figure 19-1: Geological setting of occurrence 19 58
Figure 20-1: Geological setting of occurrence 20 60
Figure 21-1: Geological setting of occurrence 21 62
Figure 22-1: Geological setting of occurrence 22 (Lauson pit) 64
Figure 22-2: Detailed geology at occurrence 22 66
Figure 23-1: Geological setting of occurrence 23 68
Figure 23-2: Detailed geology at occurrence 23 69
Figure 24-1: Geological setting of occurrence 24 (Vandebrink) 70
Figure 25-1: Geological setting of occurrence 25 72
Figure 26-1: Geological setting of occurrence 26 74
Figure 27-1: Geological setting of occurrence 27 76
Figure 28-1: Geological setting of occurrence 28 (Schmirf) 80
Figure 29-1: Geological setting of occurrence 29 (Smoky) 82
Figure 30-1: Geological setting of occurrence 30 (Eagle) 84
Figure 31-1: Geological setting of occurrence 31 (D 2) 86
Figure 32-1: Geological setting of occurrence 32 (Excelsior) 88
Figure 33-1: Geological setting of occurrence 33 (Alec) 90
Figure 34-1: Geological setting of occurrence 34 (Hope) 92
Figure 35-1: Geological setting of occurrence 35 (Willi) 94
Figure 36-1: Geological setting of occurrence 36 (Crown) 96
Figure 37-1: Geological setting of occurrence 37 (Pooky) 98
Figure 38-1: Geological setting of occurrence 38 (IMP) 100

Page

TABLES

Table 1: Mineral deposit types 2
Table 2-1: Concentrations of Au, Ag, Cu, Ni, Zn, Pb in grab samples from trenches of the Conley occurrence 15
Table 2-2: Gold concentrations in drill core from the Conley occurrence 15
Table 5-1: Assay results of chip samples from the Johnston occurrence 25
Table 5-2: Geochemical analyses of grab samples, Zone 2, ("Limestone Hill") 25
Table 5-3: Regional rock geochemical data 25

MAP

MDS Map 15: Mineral deposits and occurrences in the Aikens Lake (52M/3) area; Manitoba . . . . . in pocket

INTRODUCTION

This report and accompanying map are part of a Mineral Deposit Series presenting a uniformly organized and up-to-date collation and analysis of information on mineral occurrences in the Province of Manitoba. The series is intended: (1) to provide explorationists with a geoscientific data base that can be used in mineral exploration; and (2) to provide a technical data base for other government users in resource evaluations, formulation of mineral and land use policies and the initiation of regional development programs.

METHODOLOGY

The documentation program was initiated in the main mining districts of the province under the 1984-1989 Canada-Manitoba Mineral Development Agreement. Under this project mineral deposit geologists of the Geological Services Branch have attempted to inspect and evaluate each known mineral occurrence. These site visits ranged from a preliminary half day or less search of an area for old workings, to extensive geological mapping of selected occurrences for a week or more. In addition, for each occurrence the geologists have attempted to synthesize available data from published and unpublished sources. The Manitoba Mineral Inventory Card Index and the cancelled Assessment Files have been used extensively in the preparation of the report. Mineral occurrences represented by cancelled assessment file compilation are identified as such under the heading 'Name'. Information for all other occurrences was acquired primarily by field examination supplemented by cancelled assessment file compilation.

Deposit versus Occurrence

Throughout this report mineralization is referred to as a deposit if tonnage and grade figures are known; all other mineralization is referred to as an occurrence.

Massive Sulphide versus Solid Sulphide

The use of 'massive sulphide' in the geological literature is confusing in that it is not always clear whether the authors are referring to a 'massive sulphide deposit' (cf. Sangster, 1972) or a section of sulphide-rich rock. In this publication 'massive sulphide' will be used in reference to a deposit type, i.e., a volcanogenic massive sulphide deposit type, rather than the nature of the mineralization. A volcanogenic or sedimentogenic massive sulphide deposit can contain a sulphide lens that locally contains as little as 10% sulphide minerals by volume. The alteration zones that are an integral part of many massive sulphide deposits rarely contain more than 50% sulphide minerals. Consequently, the use of 'solid sulphide' for 75%-100% and 'near solid sulphide' for 50%-75% sulphide minerals is adopted in place of the commonly used term 'massive' to describe the textural aspects of a sulphide mineralization.

FORMAT OF MINERAL DEPOSIT MAPS

Location:

One of the incentives spurring the mineral deposit documentation was the absence of accurate location maps for known mineral occurrences. Inaccurate land bases have previously resulted in failure to find old workings, surveys conducted in wrong areas, and even cancellation of intended surveys by explorationists. Consequently, considerable field time has been spent in establishing occurrence locations and attempts have been made to display exact locations both on the map and in the accompanying report.

The location number of the map is a unique reference number that will be used both in the report and the geologists' unpublished data base. Where the volume of occurrence/deposit data within a 1:50 000 NTS map sheet is large enough to be more efficiently presented by dividing the map sheet in half or into quadrants (cf. Map MDS87-1, NTS 63K/13 SE) reference numbers will be consecutive only within the individual map sheet.

Deposit Types:

In order to maintain a mineral deposit classification, which will be useful to both explorationists and metallogeneticists, a simplified descriptive classification was selected. This classification is based on the use of common deposit types for the classification of both deposits and occurrences. The classification of mineralization is based on the premise that the mineral explorationists requires information on metals and types of mineralization in an area as well as on the economic deposits (past, present and future producers).

All deposits and occurrences are classified according to the Deposit Type classification in Table 1.

The deposit type displayed on the map represents the mineralization with the greatest economic potential, for example a disseminated narrow chalcopyrite layer is emphasized rather than a much thicker solid pyrite-graphite layer.

Mineralization:

A symbol is used to denote the percentage and/or type of mineralization present. At some localities more than one type of mineralization is present. The type of mineralization displayed in the symbol represents the mineralization with the greatest economic potential as indicated by the deposit type symbol. It should be noted that in the context of this report a "sulphide facies iron formation" is equivalent to a "sulphide stratum". For a discussion of sulphide stratum the reader is referred to Gale et al. (1980).

Host Rocks:

In general, this description refers to the immediately underlying and overlying rock types. When several rock types are present in an extensive zone of mineralization, the most common rock types are indicated.

TABLE 1: MINERAL DEPOSIT TYPES

STRATABOUND MASSIVE SULPHIDE TYPE DEPOSITS
- a) Volcanic rock associated
- b) Sedimentary rock associated
- c) Alteration zone associated with a or b

CHEMICAL SEDIMENT TYPE DEPOSITS
- a) Sulphide facies iron formation
- b) Oxide facies iron formation
- c) Carbonate facies iron formation
- d) Silicate facies iron formation
- e) Other chemical sediments

VEIN TYPE DEPOSITS
- a) Single vein
- b) Multiple veins or lenses
- c) Stockwork

MAGMATOGENIC TYPE DEPOSITS ASSOCIATED WITH MAFIC/ULTRAMAFIC ROCKS
- a) Disseminated
- b) Layered
- c) Net textured
- d) Podiform

DEPOSITS WITH PORPHYRY AFFINITIES
PEGMATITE TYPE DEPOSITS
CLASTIC SEDIMENT TYPE DEPOSITS
REPLACEMENT TYPE DEPOSIT
DISSEMINATED MINERALIZATION - NOT CLASSIFIED

Elements:

This description allows for a maximum of three metals present in increasing order of abundance by volume. The precious and base metals are indicated in preference to elements such as iron and carbon.

In some cases it has been more efficient on the map and in the report to make reference to an area of mineralization rather than individual deposits or occurrences. All mineralization in the area delineated by a dotted line on the map is referenced in the report under the location number within that area.

FORMAT OF MINERAL DEPOSIT REPORTS

Location:

Each deposit or occurrence description will contain the unique deposit reference number, deposit or claim name where applicable, UTM coordinates, general area description, the reference number of the airphoto on which the deposit can be located and a brief description of method(s) of access.

Exploration Summary:

This section provides a summary of the extent of exploration. Information for this section was compiled from Mineral Inventory Cards, cancelled Assessment Files, and maps and files from the Mining Recording Office.

Geological Setting:

In this section the general geology of a deposit or occurrence is described. The information levels of the descriptions vary considerably and depend largely upon the extent of geological mapping during the documentation project. For further details the reader should consult the references cited.

Mineralization:

A detailed description of the mineralogy, host rocks and mineralization-related alteration provide the readers with the opportunity to make their own evaluation of the significance of a mineral occurrence or deposit.

Geochemical Data:

Most geochemical data included in this report are summarized from assays listed in drill logs submitted to fulfill assessment requirements. In addition, samples collected for geochemical analysis from site visits are described in this section.

Classification:

In this section the geologist may indicate the reasons for the classification appearing on the Mineral Deposit Map. For those localities containing more than one deposit type, the deposit types not shown on the map are documented here.

References:

These include both published and unpublished sources. For published and assessment report information the reader should obtain desired material directly from the source. The mineral deposit geologists will endeavor to supply copies of unpublished material on a deposit by deposit basis. References listed at the end of each occurrence description may also include sources of additional information not directly cited in the text.

ABBREVIATIONS

The following abbreviations are used throughout the occurrence descriptions:

A.F.	assessment file(s)
cm	centimetre
DDH	diamond drill hole(s)
EM	electromagnetic
g/t	grams per tonne
HLEM	horizontal loop electromagnetic
km	kilometre
MAG	magnetic
m	metre
MDS	Mineral Deposit Series
PR	Provincial road
t	tonne
tr.	trace
VLEM	vertical loop electromagnetic
VLF-EM	very low frequency electromagnetic
py	pyrite

po	pyrrhotite
cp	chalcopyrite
sp	sphalerite
apy	arsenopyrite

ACKNOWLEDGMENTS

The author gratefully acknowledges the assistance of K. Dahlin in the compilation. E. Su drafted the figures using Autocad programs; E. Truman, N. Barton and M. Carvalho drafted the map that accompanies this report. R.G. Gaba carried out field examinations of most of the occurrences. G.H. Gale provided technical review; K.J. Ferreira, D.A. Baldwin and W.D. McRitchie edited the manuscript. Mr. W.J. Conley Jr. and Ms. Nell Conley are thanked for their hospitality in the field and for granting permission to publish data from unpublished manuscripts.

NOTE: This mineral deposit report and the accompanying map are intended to be active documents that can be updated as new information becomes available. Although revisions of the publication are anticipated, any additional unpublished information may be obtained by contacting the author or the Director, Geological Services Branch.

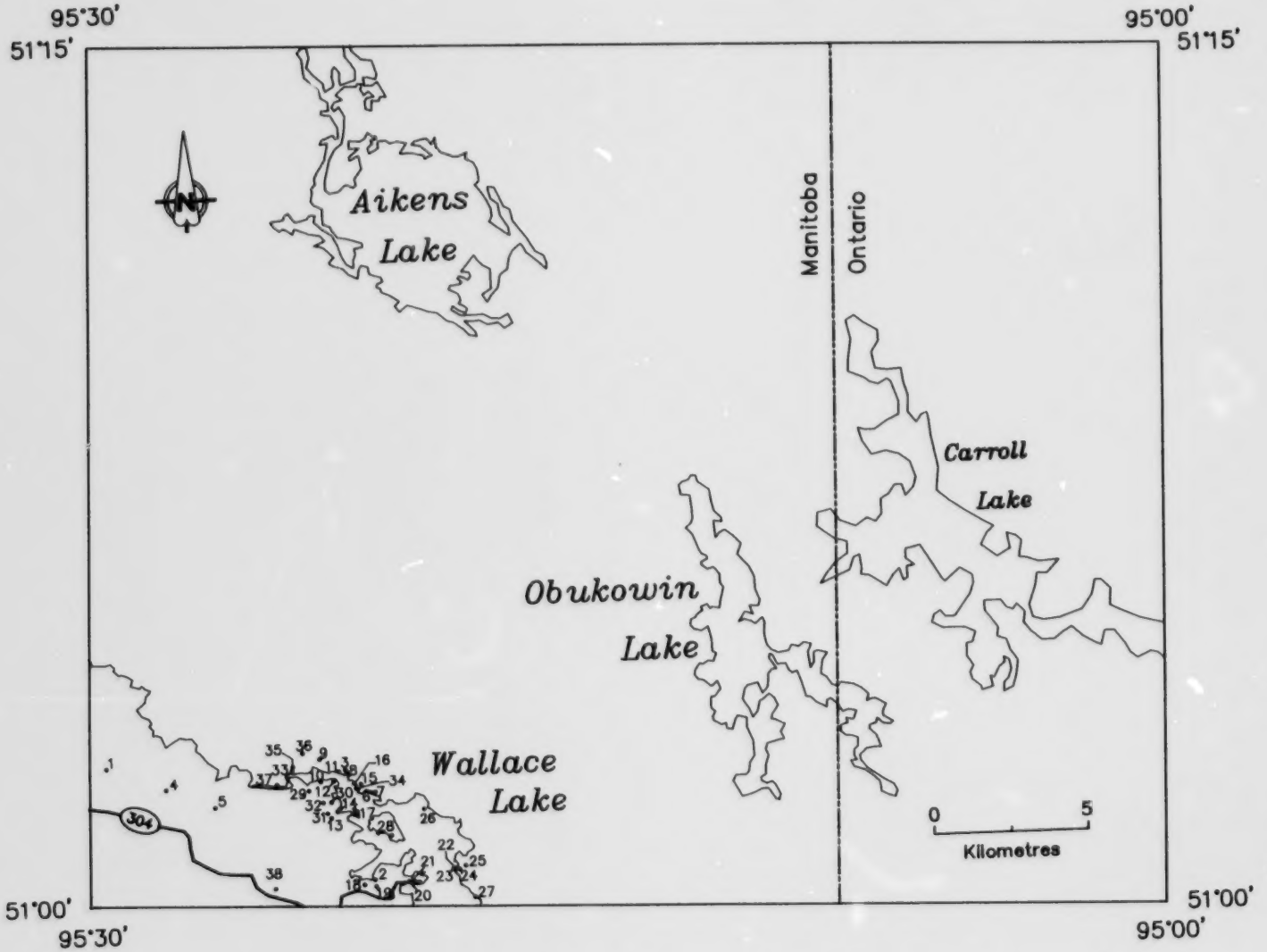


Figure 1: Location of mineral deposits and occurrences (52M/3).

GEOLOGY OF AREA 52M/3

The geological base for mineral deposit map sheet 52M/3 is compiled from several geological maps:

1) Geology of the Wanipigow River-Manigotagan River region, geological compilation map, 1:63 360 scale by W. Weber (1971a).
2) Geology of the Wallace Lake-Siderock Lake area, 1:31 680 scale by W.D. McRitchie (1971b).
3) Wallace Lake area, south-eastern Manitoba, geological map 1:63 360 scale by G.A. Russell (1948b).
4) Wallace Lake West, preliminary geological map 1:20 000 scale by D. Gaboury and W. Weber (1984)

The map area is underlain by supracrustal and intrusive rocks of the Archean Superior Structural Province in southeast Manitoba. The easterly-trending Rice Lake and Wallace Lake greenstone belts underlie the southern part of the map area. The Wallace Lake greenstone belt is separated from the Rice Lake greenstone belt, to the south, by the Wanipigow Fault, a major northwest-striking lineament. The Wallace Lake greenstone belt is bound to the north, east and west by the Wanipigow River Plutonic Complex, a suite of predominantly quartz dioritic, granodioritic and gneissic rocks.

The Wallace Lake greenstone belt contains the volcanic and sedimentary Wallace Lake Subgroup, which is part of the Rice Lake Group. These rocks are intruded by quartz dioritic and granodioritic rocks of the Wanipigow River Plutonic Complex (McRitchie, 1971b). The Wallace Lake Subgroup is subdivided into: a) the Siderock Lake Formation comprising rhyodacitic to dacitic volcanic and derived sedimentary rocks; b) the Big Island Formation consisting of basaltic rocks; and c) the Conley Formation comprising wacke, conglomerate, siltstone, magnetite chert iron formation and basalt.

The Rice Lake greenstone belt consists of the dominantly volcanic Rice Lake Group intruded by rocks of the Ross River Pluton and felsic and mafic dykes. The lower part of the Rice Lake Group is subdivided into the Bidou Lake and Gem Lake subgroups comprising volcanic and derived sedimentary rocks (Campbell, 1971; Weber, 1971b). Both subgroups are overlain by sedimentary rocks of the Edmunds Lake Formation, the youngest formation of the Rice Lake Group (Campbell, 1971).

Quartz dioritic to dioritic rocks of the Wanipigow River Plutonic Complex, are prominent in the northern part of this map area. The Wanipigow Diorite, located east of Wallace Lake, is part of the Wanipigow River Plutonic Complex. Small felsic and mafic dykes intrude the Wallace Lake greenstone belt. The contact between this complex and the greenstone belt is generally concordant, but locally it is transgressive and characterized by intense foliation.

Ultramafic rocks occur as pods and lenses on the north and northeast shores of Wallace Lake and north of Crystal Lake.

Ultramafic rocks are thought to have been structurally emplaced between the Wanipigow River Plutonic Complex and the Wallace Lake greenstone belt (McRitchie, 1971a; Scoates, 1971; Theyer, 1983).

The lithologies of the Wallace Lake greenstone belt have been compared with similar lithologies in the Rice Lake greenstone belt. A 16 km right lateral displacement of the Wallace Lake greenstone belt along the Wanipigow Fault has been proposed (McRitchie, 1969).

Metamorphism in upper greenschist to amphibolite facies along the north margin of the Wallace Lake greenstone belt is attributed to the Wanipigow River Plutonic Complex. The central and southern parts of the greenstone belt, underlain mainly by the Big Island and the Siderock Formations, attained conditions of greenschist metamorphic facies (McRitchie 1971a).

Lithologic units are generally steeply inclined to vertically dipping.

Four periods of deformation can be distinguished in the Wallace Lake greenstone belt, including two stages of folding and later fracturing (McRitchie 1971b).

Concentrations of Au, Ag, Cu, Mo and Sn have been found in the Wallace Lake greenstone belt. In addition, a magnetite-chert iron formation has been investigated as a potential source of iron (Russell, 1948a; Stephenson, 1971, 1972; McRitchie 1971a; Gaba 1987).

The prevalent style of mineralization within the northernmost part of the map area comprises graphite and Fe-sulphide mineralization in a suite of fine grained chemical and clastic sedimentary rocks that are interlayered with mafic volcanic rocks. These occurrences probably represent chemical sediment type deposits. Gold flakes were observed in a polished section of abandoned drill core of sulphide-bearing magnetite-chert iron formation although these rocks are known not to contain other anomalous gold concentrations (Theyer and Gaba, 1986).

An exception is the Jeep mine, which produced approximately 16,000 tonnes of ore with an average tenor of 26.6 g/t Au.

The quartz veins that host the gold mineralization appear to have been emplaced during the final three phases of deformation. Many mineral occurrences in quartz veins are characterized by widely fluctuating, and in places high gold concentrations, but these are erratically distributed and of small to insignificant tonnage.

SELECTED BIBLIOGRAPHY

Fedikow, M.A.F.

1981: Mineral deposit studies-Superior Province-southeastern Manitoba; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1981, p. 64-73.

Gaba, R.G.

1984: Geology of the Gatlan area, Wallace Lake (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-2, 1:500.

1985a: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities, 1985, p. 148-151.

1985b: Geology of the Gatlan gold occurrence at Wallace Lake, Rice Lake greenstone belt, southeastern Manitoba; Manitoba Energy and Mines, Mineral Resources, Interim report (unpublished), 26p.

1986: Geology of the Archean turbidite-hosted Gatlan gold occurrence, Wallace Lake greenstone belt, southeast Manitoba; Manitoba Energy and Mines, Mineral Resources, Final report (unpublished), 96p.

1987: Geology of the Archean turbidite-hosted Gatlan gold occurrence, Wallace Lake greenstone belt, southeast Manitoba; University of Western Ontario, M.Sc. Thesis (unpublished), 181p.

Marr, J.

1970: Petrology of the northern granitic rocks Wanipigow River; University of Manitoba, M.Sc. Thesis (unpublished), 92p.

McRitchie, W.D.

1969: Project Pioneer; In Manitoba Mines and Natural Resources, Summary of Geological Fieldwork, 1969, Geological Paper 4/69, p. 107-114.

1971a: Geology of the Wallace Lake-Siderock Lake Area: a Reappraisal; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 107-125.

1971b: Geology of the Wallace Lake-Siderock Lake area; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/6, 1:31 680.

1971c: The petrology and environment of the acidic plutonic rocks of the Wanipigow-Winnipeg Rivers region, southeastern Manitoba; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 7-62.

Russell, G.A.

1948a: Geology of the Wallace Lake area; Manitoba Mines and Natural Resources, Mines Branch, Publication 47-1, 15p.

1948b: Wallace Lake area, southeastern Manitoba; Manitoba Mines and Natural Resources, Mines Branch, Preliminary Geological Map 47-1, 1:63 360.

Sangster, D.F.

1972: Precambrian volcanogenic massive sulphide deposits in Canada: A review; Geological Survey of Canada, Paper 72-22, 44p.

Scoates, R.F.J.

1971: Ultramafic rocks of the Rice Lake greenstone belt; In Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 189-202.

Stephenson, J.F.

1971: Gold deposits of the Rice Lake-Beresford Lake greenstone belt, southeastern Manitoba; In Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 337-374.

1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. Thesis (unpublished), 294p.

Theyer, P.

1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

Theyer, P. and Gaba, R.G.

1986: Mineral deposit investigations in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1986, p. 120-124.

Weber, W.

1971a: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/4, 1:63 360.

1971b: Geology of the Long Lake-Gem Lake area; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 63-106.

Wright; J.F.

1932: Geology and mineral deposits of a part of southeastern Manitoba; Geological Survey of Canada, Memoir 169, 150p.

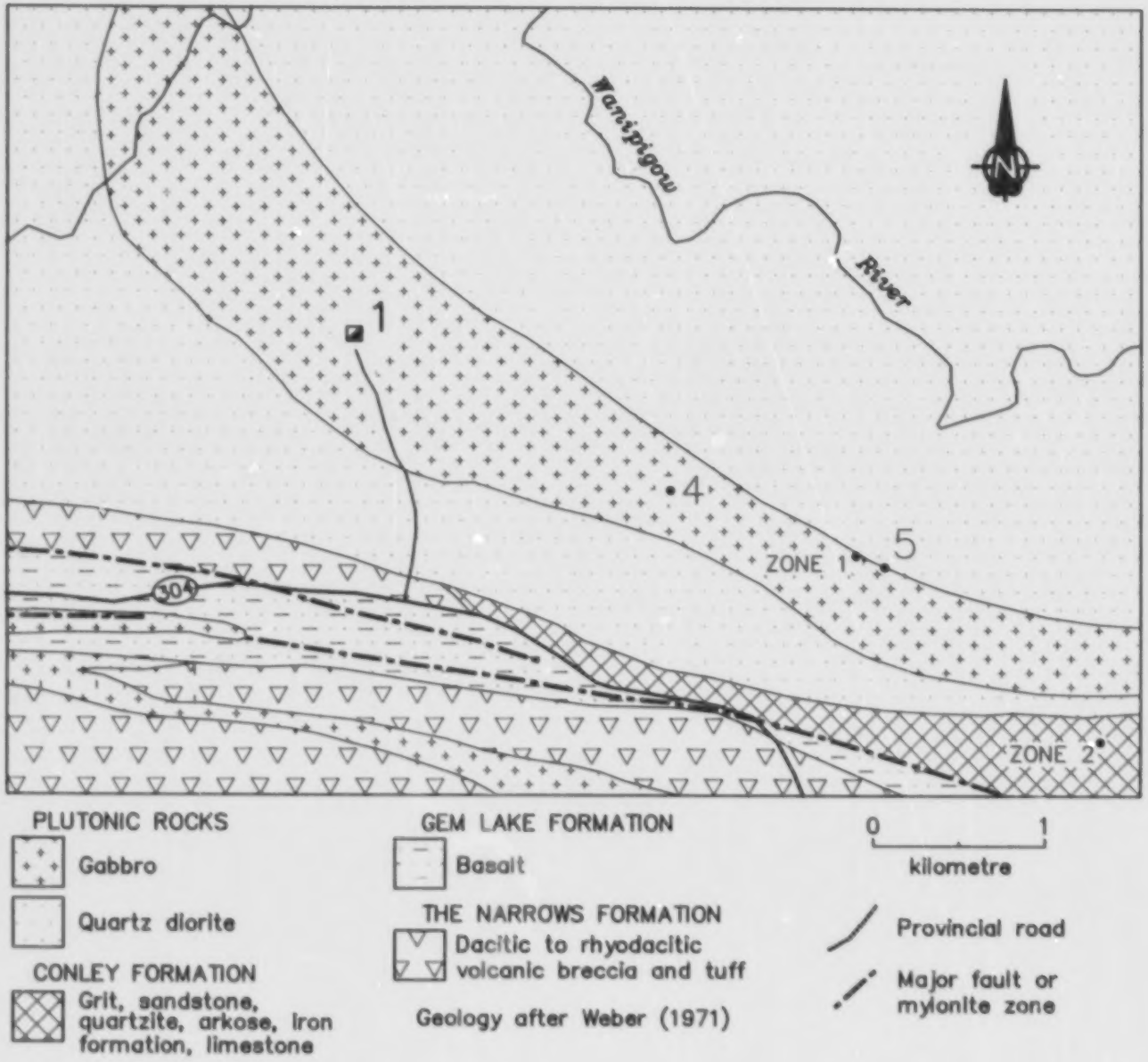


Figure 1-1: Geological setting of occurrence 1.

MINERAL DEPOSITS AND OCCURRENCES: AIKENS LAKE AREA (NTS 52M/3)

LOCATION: 1

NAME: JEEP MINE

UTM: 5656956N/325217E

ACCESS: 1.5 km north on a gravel road branching off P. R. 304, approximately 12 km east of Bissett.

AREA: 12 km east of Bissett (Fig. 1-1).

AIRPHOTO: A24710-88

EXPLORATION SUMMARY:

A detailed exploration history of the deposit is given in Mineral Inventory Card 52M/3 Au1 and in Eakins (1949). The property was first staked in 1934 and surface exploration was initiated by the Rice Gold Prospecting Syndicate in 1946. It was then transferred to Jeep Gold Mines Limited, a subsidiary of San Antonio Gold Mines Limited. In 1947 a three-compartment shaft was sunk and surface and underground exploration including drilling, crosscutting and drifting were initiated. Two hundred ninety-one tonnes of ore concentrated at the San Antonio Mine mill in 1947 yielded 5.6 kg Au; tenor of the ore ranged from 26.5 to 64.07 g/t Au. The ore tenor in 1948 averaged 27.29 g/t Au. In 1949, production of ore was 23 tonnes/day, the shaft was lowered to 180 m and levels were established at depths of 135 m and 175 metres. Mining ceased in 1950 due to the exhaustion of ore reserves. Surface exploration by San Antonio Gold Mines Limited resumed in 1958 and continued until 1959 (A.F. 91558). Geophysical surveys and diamond drilling carried out in 1973 (A.F. 91561) culminated in an announcement by Transtide Industries Limited of their intention to develop an open pit mine (Winnipeg Free Press, May 29, 1973). In 1980 the property was assigned to Augusta Gold Mines Limited who prospected the area, undertook magnetometer and EM surveys and completed a feasibility study for a 180 tonne/day mill (Northern Miner, Nov. 12, 1981). The property is currently staked and in good standing until September 1991.

The area east of the Jeep mine was intensely explored over a number of years. Roxy Gold Mines Limited directed a 12-hole 614 m diamond drilling and trenching program in 1949 followed by a 7-hole 225 m drilling program in 1950 (A.F. 91120). Keystone Mines and Oils conducted a geological and geophysical survey over part of the area in 1958 (A.F. 91121). Transtide Industries Limited drilled 5 holes (546 m total length) in 1973 southeast of the Jeep mine (A.F. 91561). Six holes totalling 600 m were drilled in 1974 on behalf of Gold Lake Resources Limited between Transtide Industries Limited and Roxy Gold Mines Limited area of interest (A.F. 92151). Esso Resources Canada Limited conducted mapping and rock sampling programs in 1979 and 1980 (A.F. 92365)(Fig. 1-2).

GEOLOGICAL SETTING:

The Jeep mine area is underlain by a L-shaped gabbroic intrusive mass that is part of the quartz dioritic to granodioritic Wanipigow River Plutonic Complex (McRitchie, 1971a). Part of the Wanipigow River Plutonic Complex is intruded by granite and by mafic to intermediate dykes. According to Gaboury and Weber (1984), the tonalite to the north and the granodiorite to the south of the Jeep mine are cut by northwesterly-striking mylonitic zones. These deformation zones are characterized by up to 1 m thick zones of fine grained, banded, beige to dark brown siliceous rock in which the internal fabric, i.e., banding and foliation, parallels the contacts with the granite. Eakins (1949) mapped these rocks as "felsitic dykes", and described them as xenomorphic aggregates of quartz and shreds of biotite, sericite and chlorite. Approximately 200 m east of the mine shaft there are several metre-thick cherty-looking quartzite layers that contain thick lense-shaped amphibole-carbonate inclusions. These rocks were interpreted by Theyer (1983) as part of a sequence of sedimentary and extrusive rocks traceable from Wallace Lake to the Jeep mine. Eakins (1949) interpreted these rocks as interbedded calcareous and siliceous sedimentary rock inclusions in the gabbro. Gaboury and Weber (1984) reported xenoliths of possible metasedimentary rock in the gabbro.

The Jeep deposit consists of gold-bearing quartz veins and stringers in parallel shear zones in gabbroic rocks. The main shear zone, which is approximately 30 m south of the shaft, is oriented 290°/80°N and contains discontinuous, irregularly shaped, poorly mineralized quartz veins not exceeding 90 cm in thickness. The quartz veins contain large euhedral plagioclase, up to 30% carbonate, and minor chlorite and biotite.

MINERALIZATION:

Stephenson (1972) observed, in thin sections of Jeep mine dump samples, that the gold was hosted by strained, white to translucent quartz trains in association with carbonate and chlorite. Gold has also been observed to be associated with pyrite and pyrrhotite in polished sections. Thin sections of the wall rocks show a banded carbonatized quartz-mica rock, that is mineralized primarily with pyrite and minor arsenopyrite; rare gold specks are associated with the arsenopyrite. According to Stephenson (1972), evidence from polished ore sections indicates a mineralization sequence

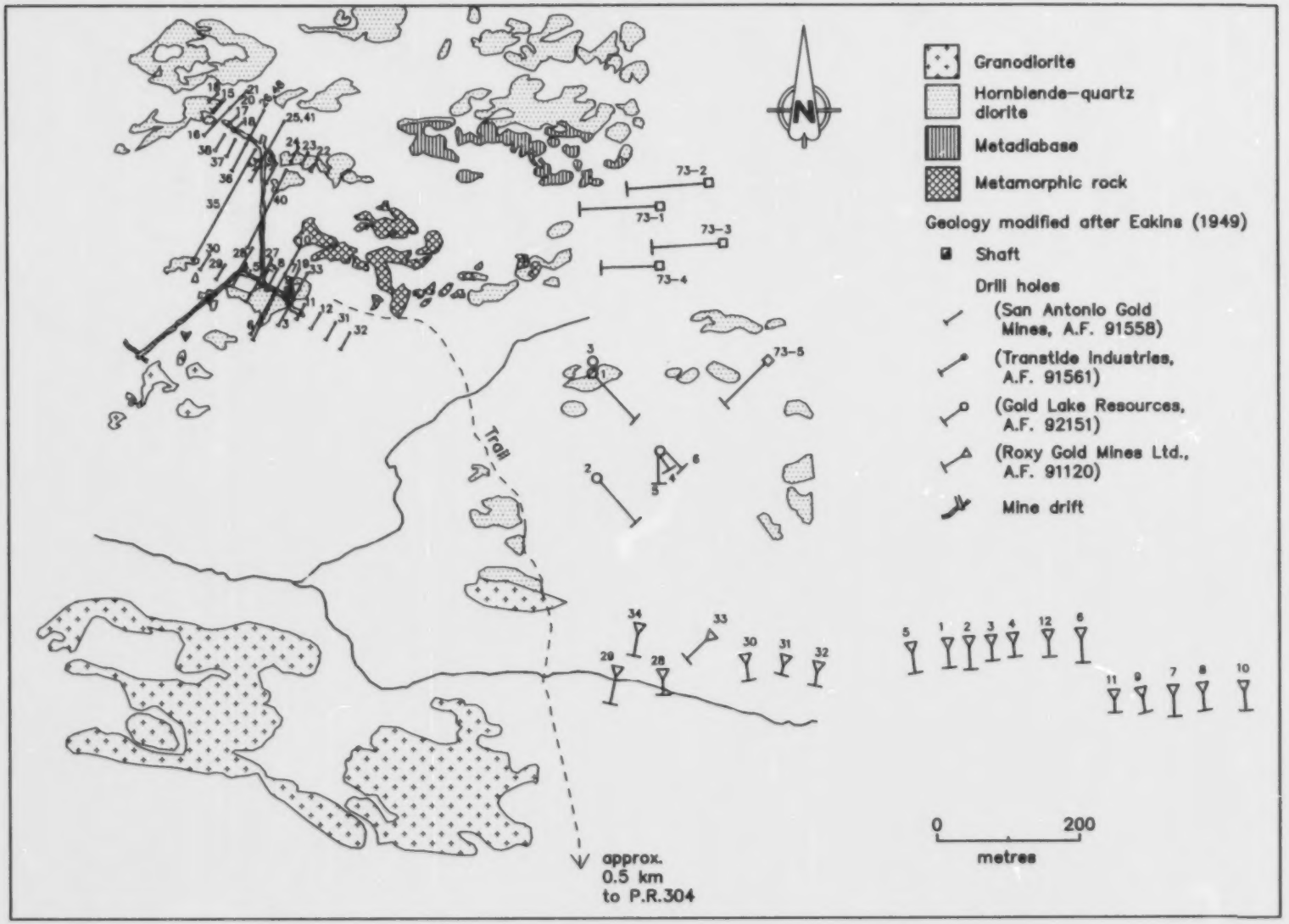


Figure 1-2: Detailed geology, underground workings, and drill hole locations at occurrence 1 (Jeep Mine).

whereby pyrite and arsenopyrite are introduced with the gold, followed by deposition of pyrrhotite and chalcopyrite.

Holes drilled by Roxy Gold Mines Limited in 1950 intersected sheared fine- to coarse-grained diorite, that is generally very sparsely to sparsely mineralized with pyrrhotite, chalcopyrite and pyrite. Most Au assays range between trace and 0.3 g/t with the exception of DDH 7, in which a 12 cm sample of coarse grained diorite with "considerable (quantities of) pyrrhotite, chalcopyrite and pyrite" assayed 0.9 g/t Au (A.F. 91120). Five holes drilled for Transtide Industries Limited in 1973 intersected essentially nonmineralized diorite and gabbro with quartz-carbonate stringers (A.F. 91561). Six holes drilled for Gold Lake Resources Limited in 1974 intersected diorite and diabase dykes mineralized with minor pyrite, chalcopyrite and pyrrhotite (A.F. 92151)(Fig. 1-2).

GEOCHEMICAL DATA:

The Jeep Mine produced 16 319 tonnes of ore yielding 432 kg Au, resulting in an average grade of 26.95 g/t Au.

CLASSIFICATION:

Vein type deposit; multiple veins and lenses.

REFERENCES:

Assessment Files 91120, 91121, 91558, 91561, 92151, 92365
Manitoba Energy and Mines, Minerals Division.

Eakins, P.R.
1949: Geology of the Jeep Mine, Rice Lake area, southeastern Manitoba; McGill University, M.Sc. Thesis (unpublished), 28p.

Fedikow, M.A.F.
1981: Mineral deposit studies-Superior Province-southeastern Manitoba; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1981, p. 64-73.

Gabbury, D. and Weber, W.
1984a: Wallace Lake project; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 85.
1984b: Wallace Lake west (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-1, 1:20 000.

McRitchie, W.D.
1971a: Geology of the Wallace Lake-Siderock Lake area; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/6, 1:31 680.

Mineral Inventory Card 52M/3 Au1
Manitoba Energy and Mines, Minerals Division.

Stephenson, J.F.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. Thesis (unpublished), 294p.

Theyer, P.
1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

Weber, W.
1971a: Geology of the Wanipigow River-Manigotagan River region; In Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/4, 1:63 360.

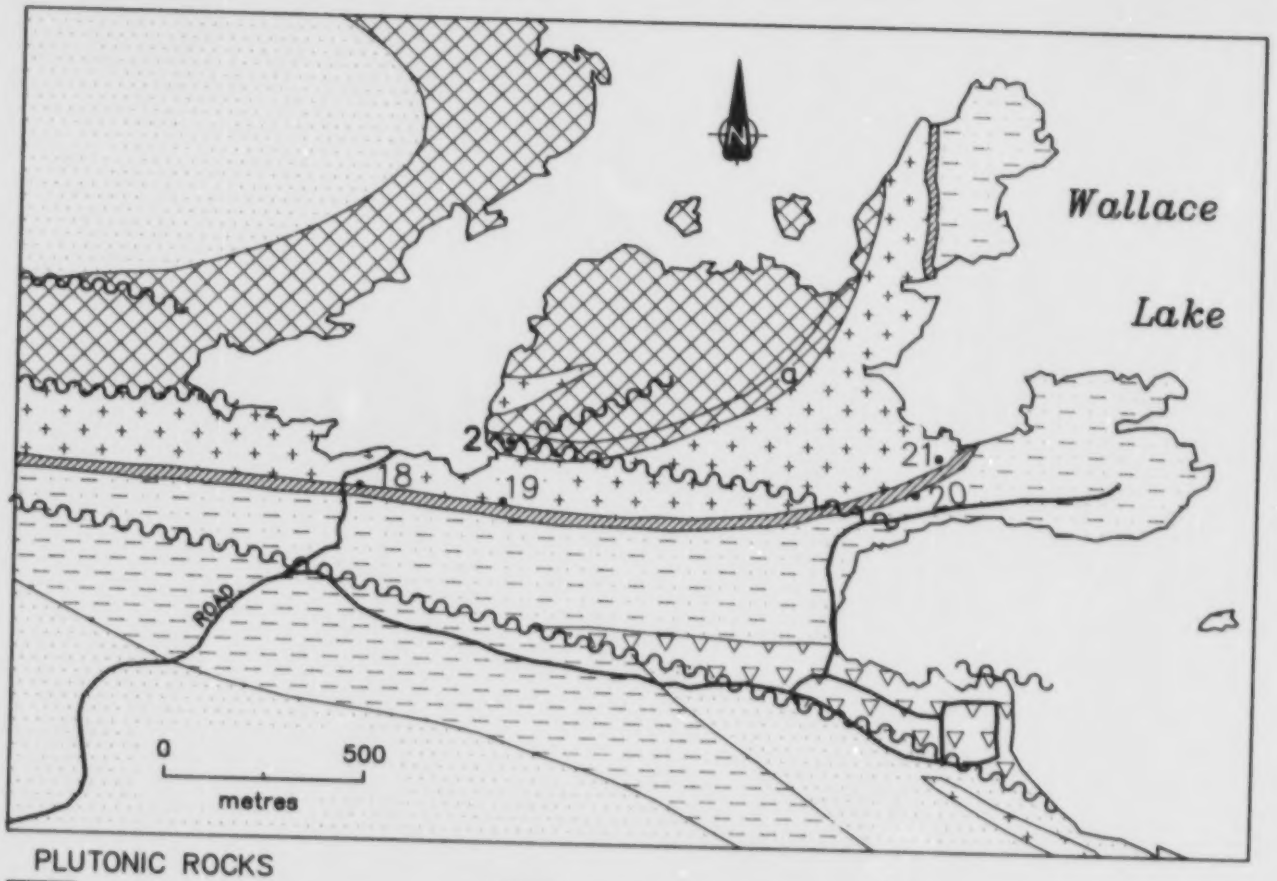


Figure 2-1: Geological setting of occurrence 2 (Conley).

LOCATION: 2

NAME: Conley

UTM: 5653083N/333835E

ACCESS: Via the Wallace Lake cottage subdivision access road and the Conley Bay access road to Conley Bay. Location 2 is approximately 50 m east of Conley Bay (Fig. 2-1).

AREA: South of Wallace Lake.

AIRPHOTO: A24710-47

EXPLORATION SUMMARY:

The Conley mineral occurrence has been described by Russell (1948), Stephenson (1971, 1972) and Theyer (1983). A detailed exploration history of the deposit is given on Mineral Inventory Card 52M/3 SW Au4. The area was staked in 1932 and exploration was initiated in that or the following year; however, pre-1936 exploration records are unavailable. According to an unpublished engineer's report (dated 1936), "there is reason to assume that most or all of the 10 shafts (pits) on this site were excavated prior to 1936" and "some diamond drilling was undertaken, the records of which are in very bad shape" (W.J. Conley Jr., pers. comm., 1990). Exploration in 1936 consisted of rock sampling and a five-hole diamond drill program. Exploration efforts were renewed in 1958, the results of which are not known (A.F. 91125). The most recent exploration activity consisted of a seven hole (176.5 m) diamond drill program completed for Kerr Addison Mines Limited in 1965 (A.F. 91559). Ten partially overgrown and rubble-filled pits can be observed at this location (Fig. 2-2).

GEOLOGICAL SETTING:

The area is underlain by the east-trending, north-dipping Conley Formation (McRitchie, 1971a,b), which consists of silicified limestone, dolomite, graphitic argillite, silicate facies iron formation and pebbly feldspathic wacke. Gabbro outcrops south of these rocks (Fig. 2-1).

The 1 to 5 m thick east-trending shear zone that is exposed in pits and trenches is confined to graphitic and cherty argillite. This shear branches from the Wanipigow Fault (McRitchie, 1971a,b), a break of regional importance that separates the Wallace Lake greenstone belt from the Rice Lake greenstone belt. The Wanipigow Fault is the locus of a proposed 16 km dextral dislocation (McRitchie, 1971a,b). South of the shear there are mafic to intermediate inhomogeneous gabbroic rocks that, in places, exhibit faint outlines resembling distorted pillows (Fig. 2-2).

MINERALIZATION:

Sulphide mineralization is contained in graphitic and cherty slate that is interlayered with silicified limestone and dolomite. Stephenson (1971) identified fine grained pyrite, chalcopyrite, sphalerite and galena layers. Silver or silver minerals were not identified, although assays of surface and of drill core samples indicate high Ag concentrations in places. Fe-oxide impregnations, presumably derived from pyrite, as well as malachite and azurite, are common.

GEOCHEMICAL DATA:

Geochemical features that distinguish the Conley deposit are:

a) erratic, in cases very high, Au (up to 2440 g/t) and Ag (up to 3940 g/t) concentrations; and
b) in places, a remarkably high Ag to Au ratio (up to 450:1).

The oldest available assay results are in an unpublished property appraisal report dated 1936 (W.J. Conley Jr., pers. comm., 1990). This report describes gold and silver concentrations in grab and drill core samples that range from nil to 2440 g/t Au and 22 g/t Ag to a spectacular **20.228 kg/t** Ag.

Concentrations of Au, Ag, Cu, Ni, Zn and Pb determined for five grab samples (Fedikow, pers. comm., 1989), are listed in Table 2-1.

Gold assays of drill core samples are listed in Table 2-2.

CLASSIFICATION:

Vein type deposit; multiple veins or lenses. This mineralization is unusual for this area in that there are erratic high Ag concentrations and extremely high Ag/Au ratios.

REFERENCES:

Assessment Files 91125,91559
Manitoba Energy and Mines, Minerals Division.

McRitchie W.D.
1971a: Geology of the Wallace Lake-Siderock Lake Area: a Reappraisal; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 107-125.
1971b: Geology of the Wallace Lake-Siderock Lake area; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/6, 1:31 680.

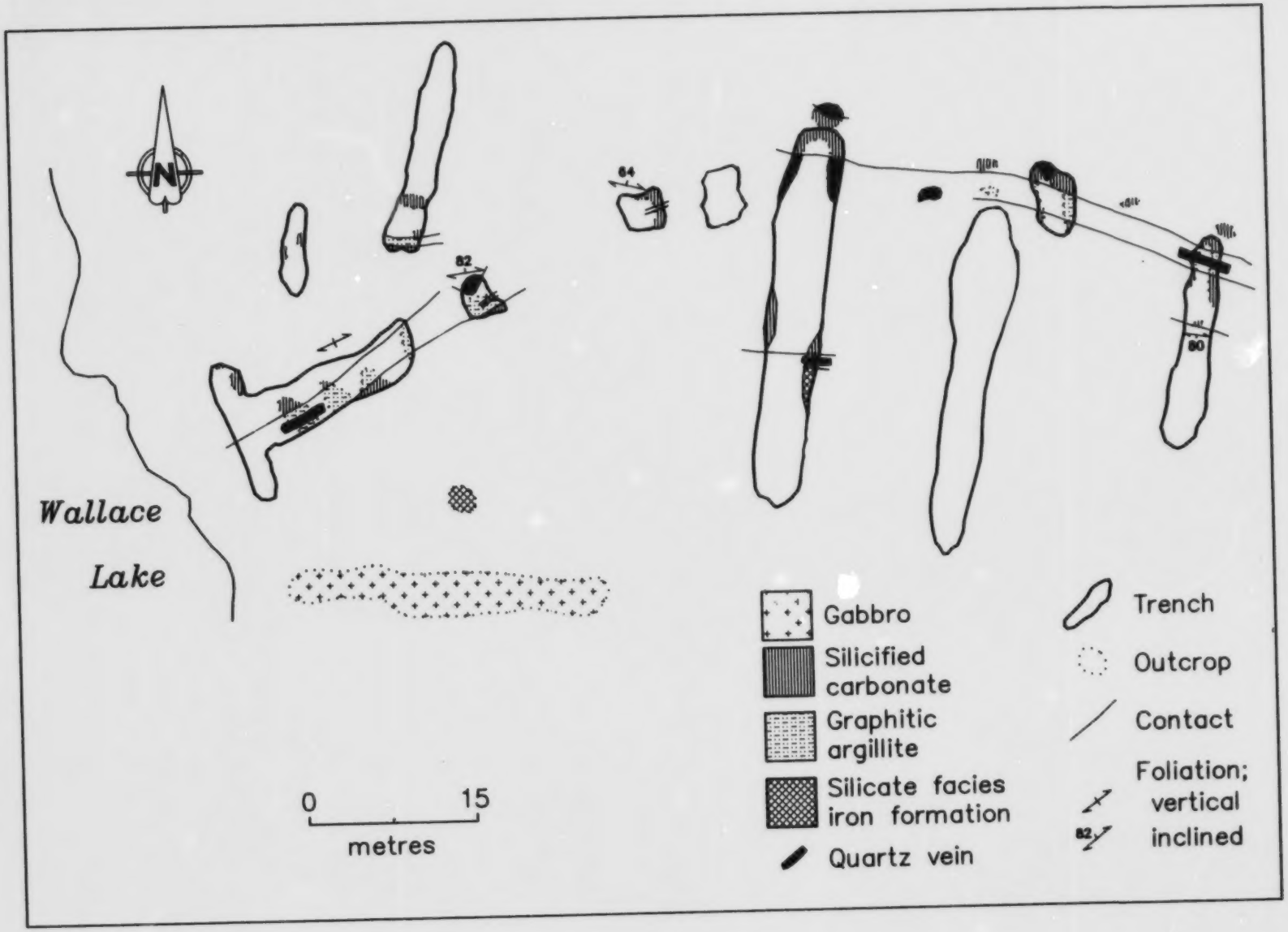


Figure 2-2: Detailed geology at occurrence 2 (Conley).

Mineral Inventory Card 52M/3 SW Au4
Manitoba Energy and Mines, Minerals Division.

Russell, G.A.
1948: Geology of the Wallace Lake area, Rice Lake Division, Manitoba; Manitoba Mines and Natural Resources, Mines Branch, Publication 47-1, 15p.

Stephenson, J.F.
1971: Gold deposits of the Rice Lake-Beresford Lake greenstone belt, southeastern Manitoba; in Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 337-374.
1972: Gold deposits of the Rice Lake-Beresford Lake area, southeastern Manitoba; University of Manitoba, Ph.D. Thesis (unpublished), 294 p.

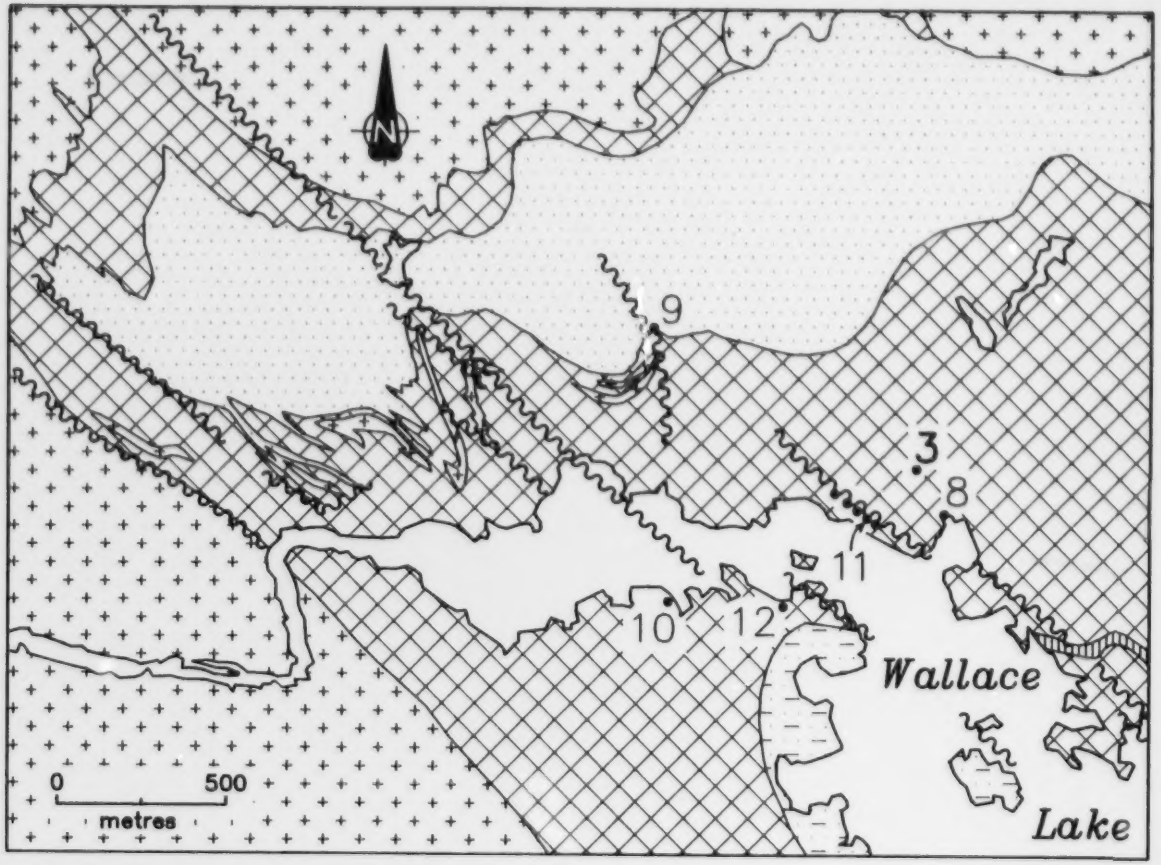
Theyer, P.
1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; in Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

Table 2-1: Concentrations of Au, Ag, Cu, Ni, Zn, Pb in grab samples from trenches of the Conley occurrence

Sample Number	Au (ppm)	Ag (ppm)	Cu (%)	Ni (%)	Zn (%)	Pb (%)
1	0.6	2.05	0.02	-	nil	0.02
2	tr.	nil	0.02	-	nil	0.02
3	tr.	2.05	nil	-	nil	tr.
4	1.0	nil	0.03	0.06	nil	tr.
5	tr.	2.74	tr.	0.02	nil	0.02

Table 2-2: Gold concentrations in drill core from the Conley occurrence (A.F. 91559)

DDH	depth(m)	length(m)	Au(ppm)
1	9.4	0.6	0.3
1	9.9	0.15	tr.
1	10.1	0.50	0.3
1	10.6	0.3	0.6
1	11.1	0.54	tr.
1	11.7	0.5	33.2
1	12.0	0.24	tr.
1	19.5	0.48	tr.
2	12.3	0.4	1.4
2	12.8	0.48	tr.
2	13	0.36	tr.
3	13.4	0.6	1.0
3	13.7	0.3	4.4
3	14.2	0.45	21.5
3	14.6	0.21	1.0
3	15.2	0.88	0.7
3	26.5	0.33	tr.
4	12.4	0.39	tr.
4	12.7	0.33	tr.
5	14.4	0.42	nil
5	14.9	0.54	nil
5	16.0	0.3	nil
5	16.3	0.27	tr.
5	17.3	0.7	tr.
6	15.5	0.4	tr.
6	16.0	0.42	1.0
6	16.7	0.5	tr.
6	17.6	0.27	tr.
6	21.0	0.45	tr.
7	12.6	0.33	tr.
7	15.8	0.33	19.1
7	18.6	0.36	tr.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate, basalt

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Shear zone

Geology after McRitchie (1971)

Figure 3-1: Geological setting of occurrence 3 (Gatlan).

LOCATION: 3

NAME: Gatlan
UTM: 5656663N/333002E
ACCESS: Via Wallace Lake.

AREA: Northern Wallace Lake (Fig. 3-1).
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

The Gatlan gold occurrence was discovered by W.J. Conley Sr. and A. McCharles in 1932 (W.J. Conley Jr., pers. comm., 1984). The W.A.D. Syndicate optioned the claims in 1932 and stripped and excavated six trenches including the Crib shaft and the Gatlan Shaft (Mineral Inventory Card 52M/3SW Au4). The option was assumed by Gencona Mines Limited in 1934, who drilled 14 holes (610 m) oriented approximately normal to the strike of the Gatlan Fault (Bull, 1934) and allowed the option to lapse. Gencona Mines Limited restaked the ground in 1947 and optioned it to San Antonio Gold Mines Limited in 1950. This company conducted geological mapping and drilled eight holes (664 m) in the vicinity of the Gatlan mineral occurrence. Exploration has concentrated on the quartz veins within the Gatlan Fault, as shown by numerous large trenches and waste rock dumps in the area of the Gatlan Fault. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

Geological studies of the Wallace Lake area include Russell (1948a,b,c); McRitchie (1969, 1971a,b) and Gaboury and Weber (1984a,b).

Gaba (1987) studied the lithologies, stratigraphy, structure and mineralization events of the Gatlan occurrence; most of the following descriptions are based on his work.

The Gatlan gold occurrence is underlain predominantly by rocks of the Conley Formation, metamorphosed to upper greenschist facies (Fig. 3-2). According to Gaba (1987), in the vicinity of the Gatlan occurrence the Conley Formation consists chiefly of epiclastic sedimentary rocks, very minor amounts of magnetite-chert iron formation and basalt. Approximately 50% of the epiclastic rocks are feldspathic wacke that occurs as 10 to 40 m thick layers interlayered with siltstone and conglomerate or as up to 20 cm thick layers rhythmically interlayered with siltstone and conglomerate. Approximately 45% of the epiclastic rocks are pebbly feldspathic wacke consisting of layered to massive, medium- to coarse-grained rocks containing lenses of matrix-supported tonalitic conglomerate. Less than 15% of the Conley Formation underlying the Gatlan occurrence are layers of argillaceous quartz wacke up to 10 m thick, characterized by uniform and continuous, up to 20 cm thick, units of alternating siltstone and chert layers, generally less than 1 cm thick.

Magnetite-chert iron formation, varying from 2 cm to 2 m thickness over a strike length of 95 m, occurs within and adjacent to the stratigraphic base of the argillaceous quartz wacke. It consists of alternating chert and fine-grained ferroactinolite and magnetite-rich layers containing abundant almandine.

Approximately 15% of the rocks in the vicinity of the Gatlan occurrence are pillowed and massive basalt that occur within pebbly feldspathic wacke. According to Gaba (1987), a concentration of amygdales on the southeastern fringe of many pillows suggests that pillow tops are to the south.

The youngest rock unit of the Conley Formation is a 20 m thick, massive to slightly layered arkosic wacke consisting of quartz and plagioclase grains in a fine-grained quartz-rich matrix.

Coarse- to fine-grained gabbro is intruded into sedimentary rocks of the Conley Formation (Fig. 3-2). A quartz-feldspar porphyritic dacite dyke less than 4 m thick crosscuts the Conley Formation southeast of the Gatlan shaft.

In the vicinity of the Gatlan gold occurrence there are minor faults, a steeply southeast-plunging anticline, axial-planar foliation, and the topographically prominent northwest-striking Gatlan Fault.

MINERALIZATION:

Mineral deposit investigations of this area include Shepherd (1932), Bull (1934), Russell (1948 a, c), Fedikow (1981), Theyer (1983), Gaba (1984, 1985a, 1985b, 1986, 1987), Gaba and Theyer (1984), and Theyer and Gaba (1986). The following description is summarized largely from Gaba (1987).

At the Gatlan gold occurrence the gold is concentrated in quartz veins and in an approximately 2.5 m thick section of argillaceous quartz wacke and feldspathic wacke along a strike length of approximately 5 m. It is predominantly accompanied by arsenopyrite, pyrite, chalcopyrite and/or pentlandite, and, to a lesser degree, with muscovite and schorl. Gold is generally associated with arsenopyrite; however, native gold also occupies interstices between muscovite plates and, less commonly occurs at contacts between muscovite and quartz grains in rocks that have a well developed foliation but do not contain arsenopyrite.

Arsenopyrite, the most abundant sulphide mineral, occurs as up to 5 mm long acicular laths and concentrically zoned rosettes. Concentrations range from near solid arsenopyrite in several centimetre thick veins, to minor disseminations Adjacent to the gabbro arsenopyrite veins and lenses up to 4 cm thick are parallel to the foliation of the host quartz wacke and are enveloped by disseminated arsenopyrite. Idioblastic pyrite in discordant veinlets and along quartz vein margins contains gold, whereas xenoblastic pyrite in the form of irregu-

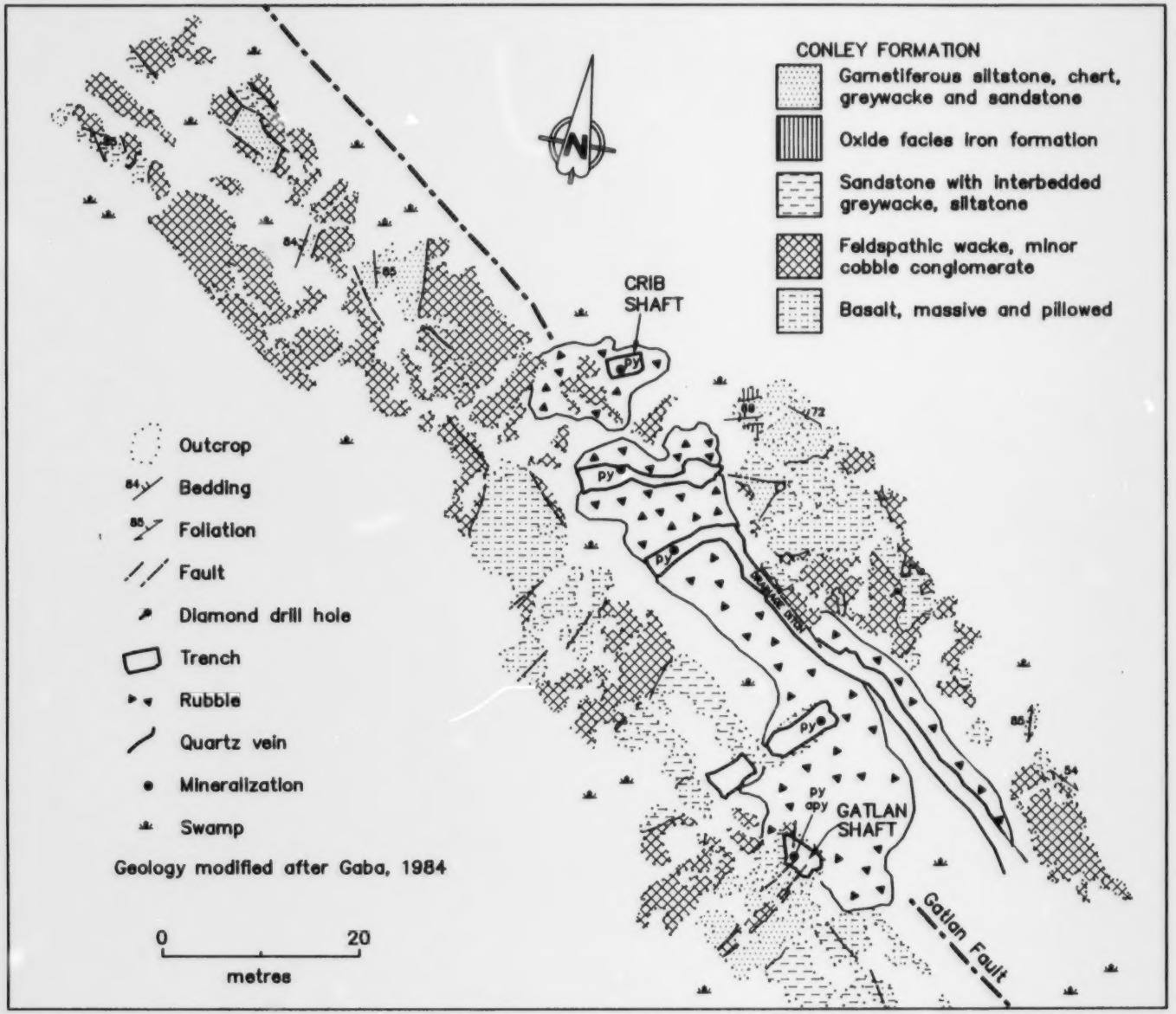


Figure 3-2: Detailed geology at occurrence 3 (Gatlan).

larly distributed interstitial grains, is generally barren. Chalcopyrite occurs in minor amounts as: a) blebs in a quartz-muscovite matrix; b) adhering to and as inclusions and infillings within arsenopyrite; and, c) as inclusions in idioblastic pyrite. Minor pyrrhotite containing rare exsolved pentlandite occurs as disseminated xenoblastic crystals.

Gaba (1987) determined that the concentration of gold at the Gatlan occurrence is controlled by:

a) composition, fabric, structure and grade of metamorphism of the host rock;

b) the presence of the gabbroic intrusion as a source of heat energy;

c) the nature of the metal-bearing fluids.

Gaba (1987) envisages the genesis of the Gatlan gold occurrence as a sequential event, in which sedimentary rocks, including gold-bearing argillaceous quartz wacke deposited as turbidites in a submarine fan environment, were subjected to progressive compaction and prograde metamorphism. The liberated fluids, containing sulphur compounds of Fe and As, were channelled by the syn-sedimentary Gatlan Fault into the foliated argillaceous quartz wacke. The sulphur compounds precipitated upon encountering oxidizing Cl-complexed gold-rich fluids expelled along the rock fabric toward the Gatlan Fault under prograde metamorphic conditions. Gold precipitated along the edges of quartz and muscovite crystals in the argillaceous quartz wacke. This mineralization event was followed by potassic and sericitic alteration of the host rock, pyritization, and at least partial remobilization and redistribution of gold and arsenopyrite caused by renewed fluid circulation due to the heat energy introduced by an adjoining gabbroic intrusive body.

GEOCHEMICAL DATA:

Eighty-four grab samples were analyzed for Au, As and Sb. Au analyses ranged from 1 ppb to 23 g/t; the abundance of Sb is consistently at or below detection limit of the analytical method. Tables listing arithmetic and geometric means of the Au and As concentrations of all studied rock types at the Gatlan occurrence are presented in Gaba (1987).

Gold concentrations in quartz veins are erratic. According to Bull (1934), a 0.8 m long chip sample from the Crib Shaft (Fig. 3-2), contained 103 g/t Au. A blue quartz vein with pyrite hosted by well-foliated basalt of the Gatlan Fault area was reported to assay 2.6 g/t Au (Shepherd, 1932).

One drill hole by San Antonio Gold Mines Limited intersected a 21 cm thick quartz stringer containing visible gold that returned an assay of 53 g/t Au. Core from two holes drilled by Dickenson Mines Limited in 1957 (locations and lengths unknown) reportedly assayed up to 24 g/t Au (W.J. Conley Jr., pers. comm., 1984).

CLASSIFICATION:

Chemical sediment type deposit; turbidite-hosted sulphides and gold.

REFERENCES:

Bull, W.J.

1934: Report of Gatlan claims: Property of Gencona Mines Limited; Manitoba Energy and Mines (unpublished report), 4p.

Fedikow, M.A.F.

1981: Mineral deposit studies-Superior Province-southeastern Manitoba; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1981, p. 64-73.

Gaba, R.G.

1984: Geology of the Gatlan area, Wallace Lake (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-2, 1:500.

1985a: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

1985b: Geology of the Gatlan gold occurrence at Wallace Lake, Rice Lake greenstone belt, southeastern Manitoba; Interim report Manitoba Energy and Mines, Mineral Resources, (unpublished), 26p.

1986: Geology of the Archean turbidite-hosted Gatlan gold occurrence, Wallace Lake greenstone belt, southeast Manitoba; Final report, Manitoba Energy and Mines, Mineral Resources, (unpublished), 96p.

1987: Geology of the Archean turbidite-hosted Gatlan gold occurrence, Wallace Lake greenstone belt, southeast Manitoba; University of Western Ontario, M.Sc. Thesis (unpublished), 181p.

Gaba, R.G. and Theyer, P.

1984: The Gatlan gold occurrence, Wallace Lake; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 100-101.

Gaboury, D. and Weber, W.

1984a: Wallace Lake project; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 85.

1984b: Wallace Lake west (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-1, 1:20 000.

McRitchie, W.D.

1969: Project Pioneer; In Manitoba Mines and Natural Resources, Summary of Geological Fieldwork, 1969, Geological Paper 4/69, p. 107-109.

1971a: Geology of the Wallace Lake-Siderock Lake area: a reappraisal; In Geology and geophysics of the Rice Lake region, southeastern Manitoba (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, p. 107-126.

1971b: Geology of the Wallace Lake-Siderock Lake area; In Geology and geophysics of the Rice Lake region, southeastern Manitoba, (W.D. McRitchie and W. Weber, ed.); Manitoba Mines and Natural Resources, Mines Branch, Publication 71-1, Geological Map 71-1/6, 1:31 680.

Russell, G.A.

1948a: Geology of the Wallace Lake area, Rice Lake Division, Manitoba; Manitoba Mines and Natural Resources, Mines Branch, Publication 47-1, 15p.

1948b: Wallace Lake area; Manitoba Mines and Natural Resources, Mines Branch, Geological Map 47-1, 1:63 360.

1948c: Economic geology of the Wallace Lake area; Western Miner, v.21, p. 45-47.

San Antonio Gold Mines Limited.,

1950: San Antonio Gold Mines Limited drill report on Gatlan property option; Manitoba Energy and Mines, unpublished Report, 18p.

Shepherd, F.D.

1932: Gatlan prospect, Wallace Lake, southeastern Manitoba; Manitoba Energy and Mines, Mining Recording Section, unpublished information file 52M/3.

Theyer, P.

1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt; In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

Theyer, P. and Gaba, R.G.

1986: Mineral deposit investigations in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1986, p. 120-124.

LOCATION: 4

NAME: Hodgins
UTM: 5656211N/327141E
ACCESS: Traverse east along a tractor trail that branches off the Jeep Mine access road at a point approximately 850 m north of PR 314.

AREA: East of Bissett
AIRPHOTO: A24710-87

EXPLORATION SUMMARY:

The area east and southeast of the Jeep mine was repeatedly explored for gold-bearing quartz veins. The Hodgins showing (Fig. 4-1) was the first mineral occurrence found in this area (A.F. 92365). This occurrence was investigated in 1926 and 1927 (A.F. 91125). A 8 by 4 m water-filled pit was observed at the occurrence in 1984. The area is currently staked and in good standing until March 1994.

GEOLOGICAL SETTING:

The area of the occurrence is underlain by locally intensely foliated gabbroic to leucogabbroic rocks (Gaboury and Weber, 1984a, 1984b).

MINERALIZATION:

Two approximately 60 cm thick and several subordinate centimetre-thick quartz veins ("the Hodgins veins") are erratically mineralized with minor disseminations and stringers of pyrite, sphalerite, galena, chalcopyrite, malachite and bornite.

GEOCHEMICAL DATA:

Representative grab samples of vein material from this occurrence assayed 15 to 17 g/t Au (A.F. 92365). Two grab samples (77-4-20; 77-4-21) consisting of quartz vein rubble with up to 5% sulphides and minor malachite assayed trace Au (Stewart, 1985).

An additional grab sample (51-3-86) that consisted of quartz vein rubble with minor pyrite, malachite, galena and bornite contained 10 ppm As, 2.3 ppm Sb, 31 ppm W and 49 ppb Au.

A grab sample (51-3-87) of the host rock adjacent to the shear zone hosting the quartz veins contained 16 ppm As, 0.4 ppm Sb, 7 ppm W and 4 ppb Au.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Assessment Files 91125, 92365
Manitoba Energy and Mines, Minerals Division

Gaboury, D. and Weber, W.
1984a: Wallace Lake project; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 85.
1984b: Wallace Lake west (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-1, 1:20 000.

Stewart, P. W.
1985: Mineral occurrence documentation in the Rice Lake greenstone belt; In Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities, 1985, p. 133-147.

Theyer, P.
1983: Geology of gold environments in the Bissett/Wallace Lake portion of the Rice Lake greenstone belt (52M/3, 4 and 52L/14); In Manitoba Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 101-106.

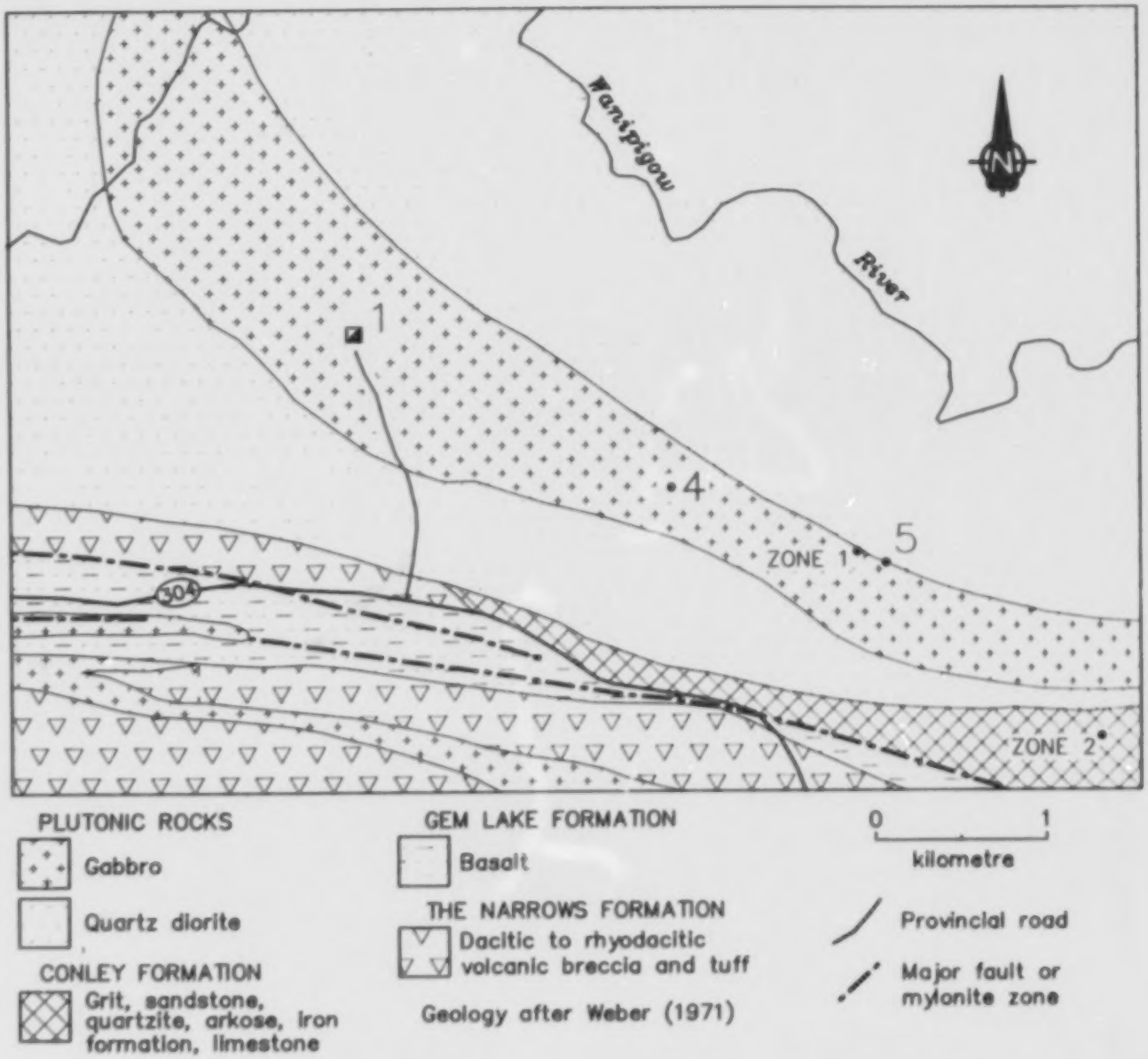


Figure 4-1: Geological setting of occurrence 4 (Hodgins).

LOCATION: 5

NAME: Johnston

UTM: 5655589N/328714E

ACCESS: Traverse east along a tractor trail branching from the Jeep Mine access road, at a point approximately 850 m north of PR 304.

AREA: East of Bissett.

AIRPHOTO: A25712-91

EXPLORATION SUMMARY:

The Johnston occurrence was called the "No. 1 showing" by its discoverer, W. G. Johnston, in 1959. Keystone Mines and Oils conducted geological, and MAG and EM surveys over part of the area in 1958 (A.F. 91121). Sheridan Gold Mines undertook outcrop stripping, line cutting, geological mapping and sampling programs in 1960 (A.F. 91125).

The area is currently staked and in good standing until March 1994.

GEOLOGICAL SETTING:

The Johnston occurrence or "No. 1 showing" is an array of 1 to 2 cm thick, milky white quartz veins and quartz lenses in a shear zone in granodiorite that has been intruded by gabbro.

In addition to the Johnston occurrence, there are several other pits in the vicinity. The most prominent of these, (Zone 1) is located approximately 350 m west of the Johnston occurrence (Fig. 5-1) and was referred to as the "No. 2 showing" (A.F. 91125). Zone 1 is an approximately 7 cm thick, east-striking, north-dipping quartz vein in a shear zone in granodiorite.

Zone 2 (locally known as "Limestone Hill"), 1.5 km southeast of occurrence 5 (Fig. 5-1), is underlain by intensely folded Conley Formation quartzite, silicified limestone, arkose and magnetite-chert iron formation. The quartzite in places is translucent and has a cherty appearance. Discontinuous layers and lenses of black slate, in places pyrite-bearing, occur near and at the interface of quartzite and intensely shear-folded silicified mafic volcanic rocks.

Theyer (1983) proposed that supracrustal rocks exposed in the vicinity of the Conley occurrence (Location 2) adjacent to Wallace Lake and underlying "Limestone Hill" (Zone 2) (Fig. 5-1) strike into the Jeep Gold mine area (Location 1) and that the area between the Jeep mine and Wallace Lake may contain potentially gold-bearing supracrustal rocks. However, mapping at 1:20 000 scale of the area between the Jeep mine and Wallace Lake indicated that, although locally supracrustal rock enclaves are present, extensive supracrustal rocks do not underlie the area between "Limestone Hill" and the Jeep mine (Gaboury and Weber, 1984a, 1984b).

MINERALIZATION:

Quartz at the Johnston occurrence contains disseminations and stringers of minor pyrite and chalcopyrite and locally has abundant gold flakes and wires.

Zone 1 is mineralized with 2 to 3% disseminated pyrite. Zone 2 is characterized by disseminated pyrite in parts of the magnetite-chert iron formation and an up to 10 cm thick discontinuous layer of disseminated (up to 15%) pyrite in black slate.

GEOCHEMICAL DATA:

Fourteen chip samples ranging from 0.15 m to 0.8 m in length were collected by W.G. Johnston (A.F. 91125). Gold concentrations range from 0.3 g/t to approximately 72 g/t (Table 5-1). Quartz lenses and stringers occur up to 100 m southeast of the sampled pit. "Good gold assays" were recovered "but the overall gold content is low". An overall Au content of 15.4 g/t was reported for the No. 2 zone from the analysis of "several chunks (collected) across the vein"; 150 m west of the No. 2 vein, W. G. Johnston reported a 1.5 m thick quartz lense assaying 12 g/t Au over its entire thickness. Approximately 15 m east of this quartz lense, an additional lense, hosted by the same shear zone, was assayed at 1.4 g/t Au (A.F. 91125).

A grab sample collected in 1980 by Esso Resources Canada from an unspecified rock type containing traces of visible gold assayed 574 g/t Au (A.F. 92365). A grab sample (51-3-89), collected from the pit at the Johnston occurrence, consisting of rusty vein quartz with 2 to 3% pyrite contained 8 ppm As, 1.2 ppm Sb, 14 ppm W and 70 g/t Au.

Analyses for As, Sb, W, and Au from eight grab samples collected on a traverse across Zone 2 ("Limestone Hill") are listed in Table 5-2.

A regional program that sampled outcrops in an area roughly defined by PR 314 to the south, the Wanipigow River to the north, the Jeep Mine to the west and the Johnston occurrence to the east was intended to provide information on background concentrations of Au, As, W and Sb in the underlying rocks. The data are listed in Table 5-3. Sample locations are plotted in Figure 5-2.

CLASSIFICATION:

Vein type deposit; multiple veins and lenses.

a) Zone 1; Vein type deposit; single vein.

b) Zone 2; chemical sediment type that includes oxide facies iron formation and other chemical sediments.

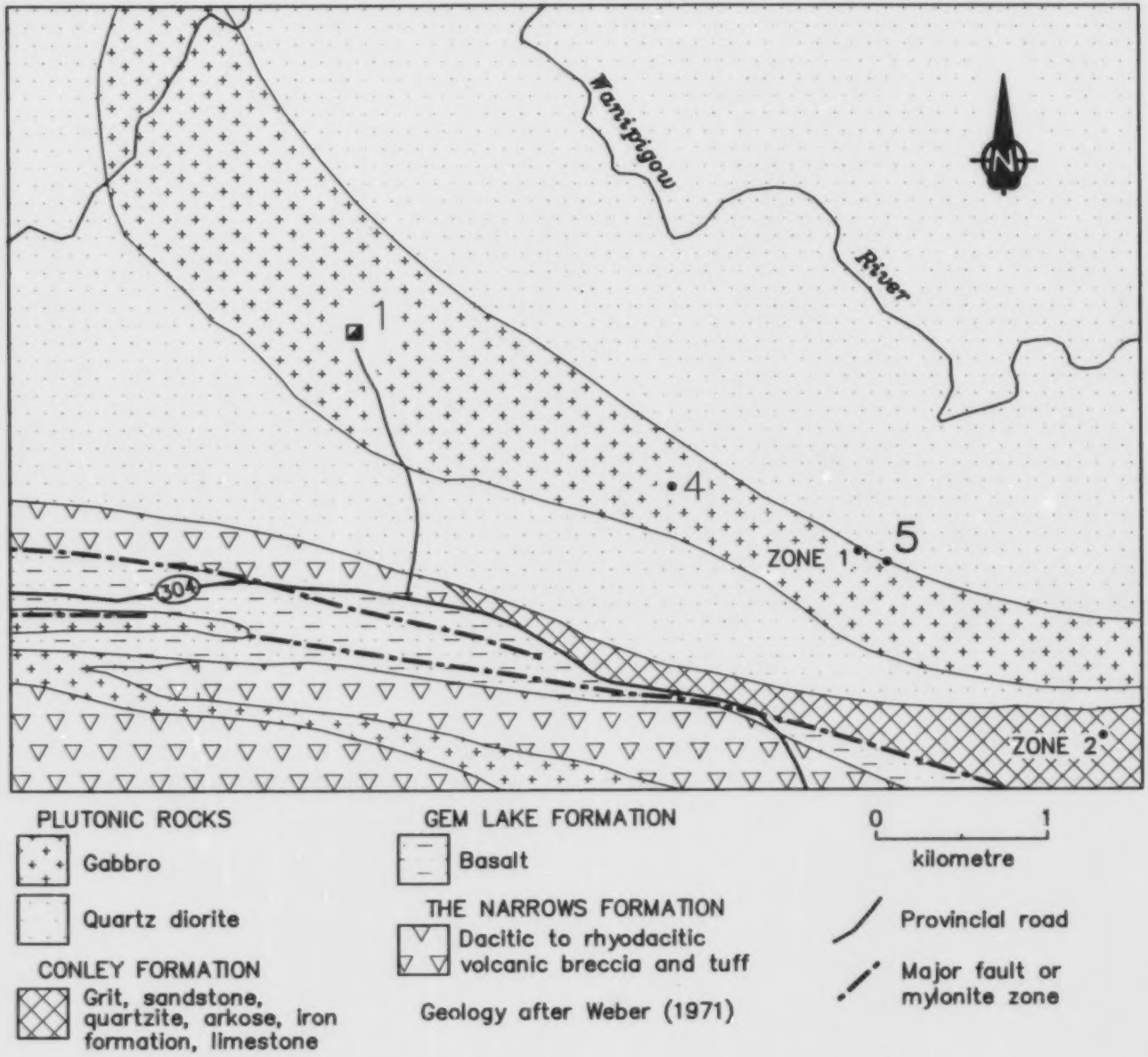


Figure 5-1: Geological setting of occurrence 5 (Johnston).

REFERENCES:

Assessment Files 91121, 91125, 92653, 92365
Manitoba Energy and Mines, Minerals Division.

Gaboury, D. and Weber, W.

1984a: Wallace Lake project; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 85.

1984b: Wallace Lake west (part of 52M/3); Manitoba Energy and Mines, Mineral Resources, Preliminary Map 1984R-1, 1:20 000.

Table 5-1: Assay results of chip samples from the Johnston occurrence (A.F. 91125)

Sample Location*	Length (m)	Au (g/t)
0	0.2	13
1.0	0.3	7.1
	0.15	71.9
1.7	0.3	34.2
	0.3	20.5
2.8	0.7	29.4
3.4	0.8	68.6
	0.3	0.3
5.1	0.5	0.6
	0.2	0.6
6.3	0.6	1.3
	0.5	18.1
7.2	0.8	0.6
	0.4	21.6

* - Distance from western edge of pit, in metres.

Table 5-2: Geochemical analyses of grab samples, Zone 2, ("Limestone Hill")

Sample Number	As (ppm)	Sb (ppm)	W (ppm)	Au (ppb)
74	3	0.9	6	1
75	2	1.1	3	<1
76	2	1.1	6	2
77	7	2.6	<1	3
78	42	2.9	31	<1
79	11	2.3	35	29
80	38	6.9	13	3
81	460	12	9	1100

Table 5-3: Regional rock geochemical data (Fig. 5-2)

Sample Number	Au (ppb)	As (ppm)	Sb (ppm)	W (ppm)
1	8	4	0.9	1
2	9	6	0.7	1
3	2	8	1.0	1
4	9	3	0.6	1
5	1	18	0.9	1
6	2	5	1.0	1
7	2	10	0.7	1
8	2	3	0.4	1
9	1	3	0.8	2
10	1	2	0.3	1
11	1	2	0.7	1
12	4	3	0.5	1
13	1	2	0.8	1
14	4	1	0.2	1
15	4	3	1.4	1
16	1	3	0.9	2
17	2	4	0.9	2
18	1	3	0.6	1
19	1	3	0.8	1
20	2	7	0.9	1
21	5	4	1.0	2
22	5	6	0.8	2
23	4	8	1.1	1
24	2	4	0.8	1
25	3	15	1.0	1
26	3	39	0.4	1
27	1	3	0.4	1
28	2	7	1.1	1
29	2	2	0.4	1
30	2	8	2.5	1
31	3	5	0.8	1
32	1	4	1.4	1
33	4	2	0.7	1
34	1	3	1.1	1
41	2	3	0.7	1
42	1	3	0.5	1
43	1	2	0.7	1
44	1	2	0.7	1
45	1	1	0.5	1
46	5	7	4.0	4
47	2	3	0.5	1
48	2	5	1.0	2
49	1	19	0.6	1
50	7	100	4.3	1
52	5	5	0.9	1
53	4	23	1.7	1
54	3	27	2.0	1
56	1	2	0.6	1
57	1	21	3.9	1
60	1	2	0.5	1
61	1	1	0.7	1
62	1	4	0.6	1
63	2	3	0.8	1
64	1	6	1.1	1

Table 5-3: Regional rock geochemical data (Fig. 5-2) Cont'd

Sample Number	Au (ppb)	As (ppm)	Sb (ppm)	W (ppm)
65	1	5	1.3	1
66	3	8	1.0	2
67	3	11	1.4	1
68	11	42	0.6	1
69	3	21	1.1	1
70	4	11	1.2	2
71	2	15	1.1	1
72	2	15	0.9	1
73	1	4	0.4	1
74	2	5	0.6	2
75	1	3	0.8	1
76	1	3	0.7	2
77	1	4	0.7	1
78	1	4	0.9	1
80	2	2	0.3	1
81	1	4	0.8	2
82	1	3	0.7	1
83	1	4	0.6	1
84	3	3	0.8	1
85	1	3	0.6	1
86	1	4	0.8	1
87	1	3	0.5	1
88	1	2	0.4	1
89	1	3	0.8	2
90	1	4	0.8	1
91	2	5	0.7	1
92	2	3	0.9	1
93	9	6	2.0	1
94	2	18	1.7	2
95	7	16	1.7	1
96	2	4	1.0	2
97	3	5	1.3	1
98	17	5	0.7	2
99	2	4	0.7	2

Table 5-3: Regional rock geochemical data (Fig. 5-2) Cont'd

Sample Number	Au (ppb)	As (ppm)	Sb (ppm)	W (ppm)
100	1	4	0.7	1
101	2	3	0.7	1
102	2	3	0.7	4
103	1	10	1.2	2
104	3	4	0.7	1
105	4	3	0.8	1
106	1	3	0.7	1
107	2	3	0.7	1
108	2	3	0.7	1
109	2	4	0.9	2
110	2	3	1.5	1
111	3	9	1.1	1
112	7	4	0.6	1
113	3	3	0.6	1
114	18	10	1.3	1
115	2	16	1.1	1
116	6	51	1.2	3
117	3	6	1.2	1
118	6	8	0.9	1
119	2	3	0.7	3
120	3	3	0.8	2
121	4	35	1.1	1
122	2	7	1.1	1
123	4	10	1.7	1
124	3	5	1.0	1
125	3	3	1.1	1
126	6	5	0.9	1
127	3	7	1.6	1
128	2	7	1.1	1
129	10	7	1.0	1
130	1	4	0.9	1
131	4	5	0.7	1
132	15	4	1.1	1
133	2	3	0.6	1

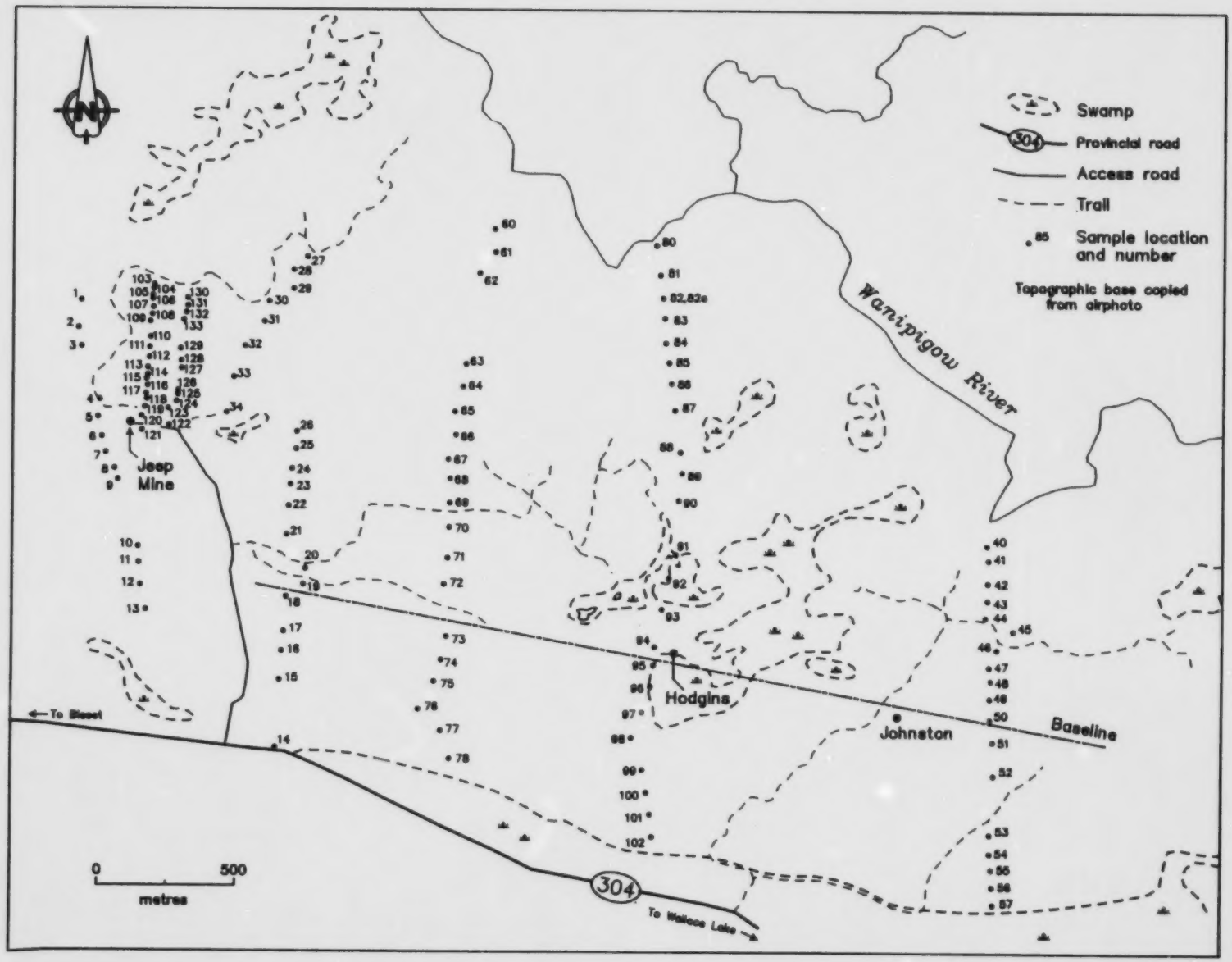


Figure 5-2: Regional geochemical sampling program (Jeep-Johnston area)

LOCATION: 6

NAME: Twin Bays
UTM: 5655903N/333822E
ACCESS: Via Wallace Lake

AREA: North Wallace Lake (Fig. 6-1).
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

This occurrence, found in 1961 by W.J. Conley Sr. and W.J. Conley Jr., was trenched and panned for gold (Conley, 1983). A trench (15x3x2 m) is located at this site. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation sheared basalt and quartzite, sandstone and siltstone hosting an approximately 10 m thick, northeast-trending quartz vein (Gaba, 1985a).

MINERALIZATION:

Minor amounts of disseminated pyrite, pyrrhotite, chalcopyrite and magnetite occurs in some of the quartz veins. Fuchsite-bearing quartz lenses occur in the host rock.

GEOCHEMICAL DATA:

"Some zones of the vein yielded up to 3.4 g/t Au" (Conley, 1983). No rock samples were taken from this vein during the investigation by staff of Manitoba Energy and Mines.

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Conley, W.J. Jr.

1983: Account of exploration activities in NW Wallace Lake; Manitoba Energy and Mines, Minerals Division, unpublished notes.

Gaba, R.G.

1985a: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

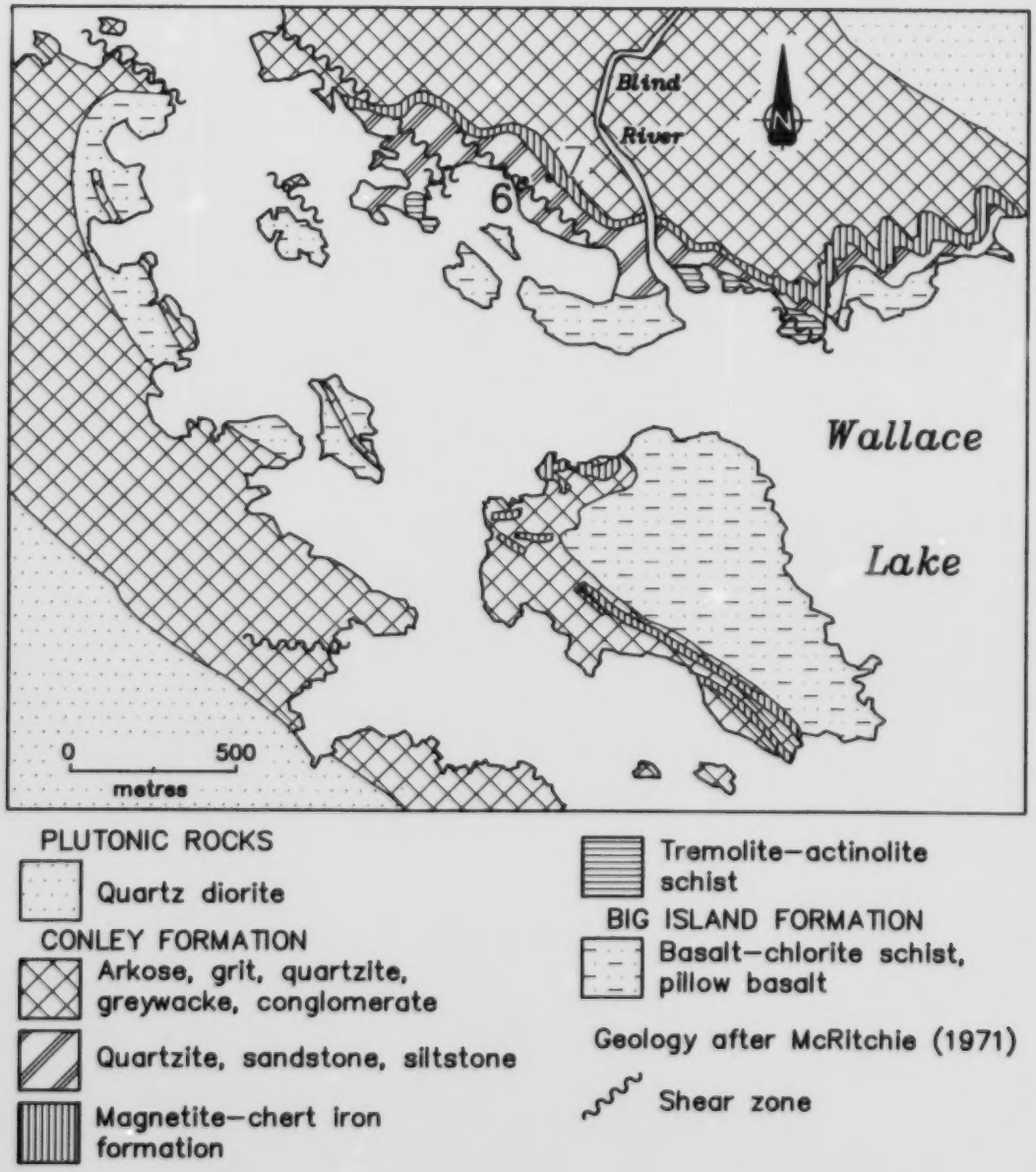
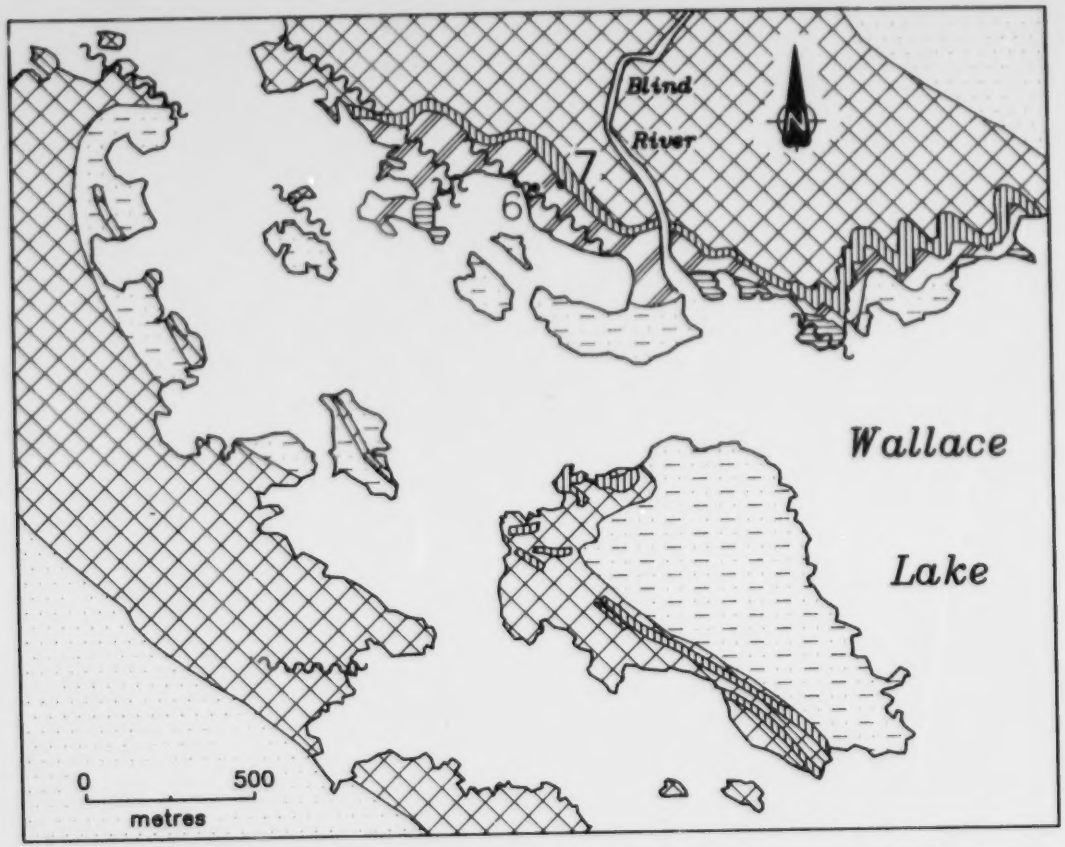


Figure 6-1: Geological setting of occurrence 6 (Twin Bays).



PLUTONIC ROCKS

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate

Quartzite, sandstone, siltstone

Magnetite–chert iron formation

Tremolite–actinolite schist

BIG ISLAND FORMATION

Basalt–chlorite schist, pillow basalt

Geology after McRitchie (1971)

Shear zone

Figure 7-1: Geological setting of occurrence 7.

LOCATION: 7

NAME: Twin Bays (Iron Formation)
UTM: 5655921N/333952E
ACCESS: Via Wallace Lake

AREA: North Wallace Lake (Fig. 7-1).
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

This area initially prospected in 1961 by W.J. Conley Sr. and W.J. Conley Jr., was trenched and panned for gold. (Conley, 1983). Three trenches (1x1x0.5 m, 1x0.75x0.5 m, 1x0.5x0.5 m) have been blasted in a zone of mineralization. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation banded oxide- and sulphide facies iron formations, medium- to coarse-grained sandstone, siltstone and ferruginous cherty siltstone containing trains of porphyroblastic garnets (Gaba, 1985).

MINERALIZATION:

Vein quartz contains moderate amounts of disseminated pyrite and chalcopyrite and minor fuchsite and garnet. Cherty oxide facies iron formation layers are interlayered with near solid to solid layers of medium grained pyrite. Some pyrite veinlets crosscut cherty layers.

GEOCHEMICAL DATA:

Eleven grab samples taken from the sulphide- and the silicate facies iron formations contained from <12 to 78 ppb Au (Fig. 7-2)

CLASSIFICATION:

Chemical sediment type deposit; sulphide- and oxide facies iron formation.

REFERENCES:

Conley, W.J. Jr.

1983: Account of exploration activities in NW Wallace Lake; Manitoba Energy and Mines, Minerals Division, unpublished notes.

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

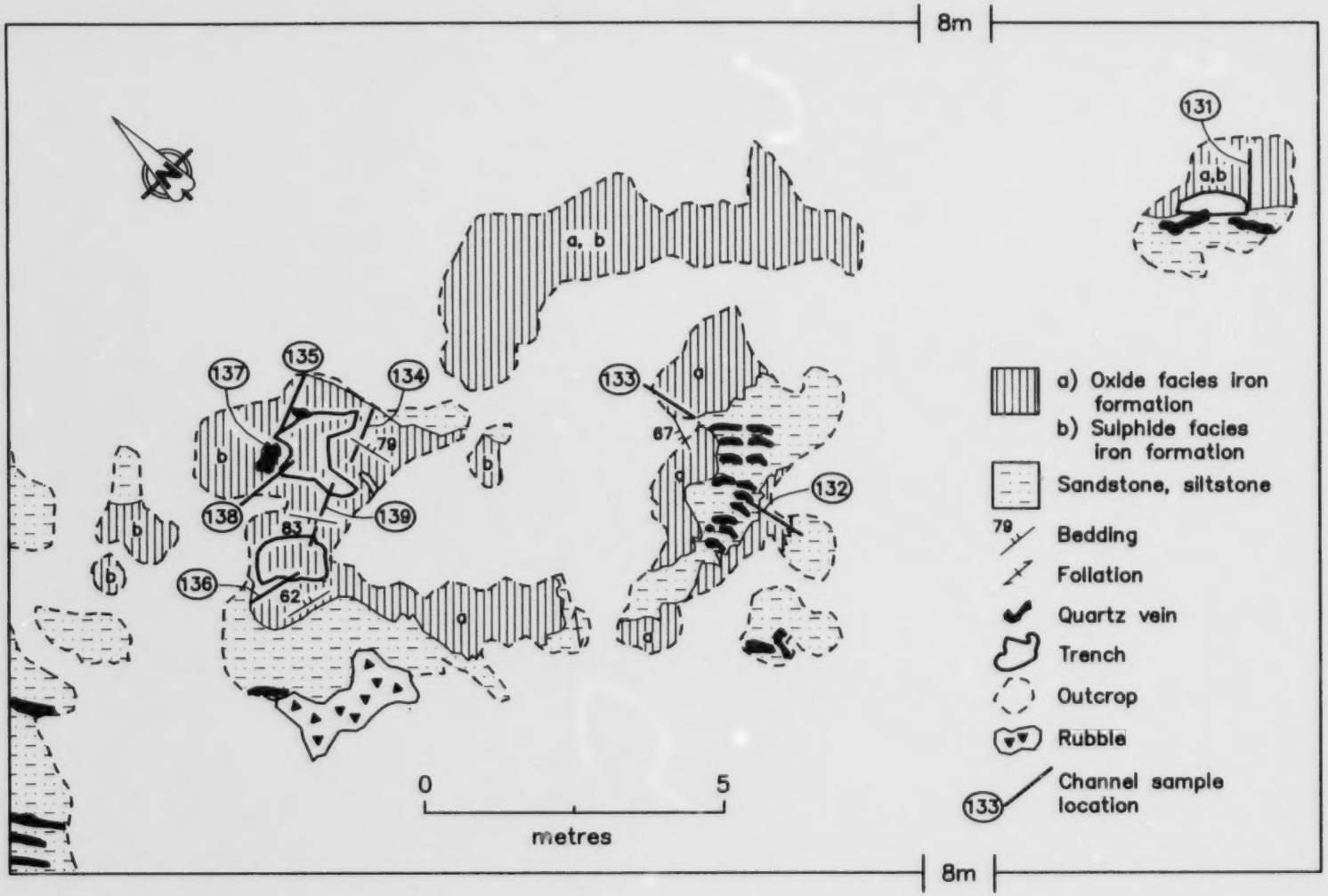


Figure 7-2: Detailed geology at occurrence 7.

LOCATION: 8

NAME: Moore Vein
UTM: 5656588N/333052E
ACCESS: Via Wallace Lake

AREA: North Wallace Lake (Fig. 8-1)
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

The occurrence was found by G. Moore in 1950 (Conley, 1983). Two trenches were observed at this site (Gaba, 1985) (Fig. 8-2). The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation quartz and feldsparphyric sedimentary rocks, garnetiferous siltstone, sandstone and polymictic conglomerate. A white quartz vein, approximately 0.5 m thick and more than 20 m long, is hosted by garnet-bearing greywacke and siltstone.

MINERALIZATION:

The quartz vein contains 1 to 2% disseminated pyrite; minor disseminated pyrite and arsenopyrite are erratically distributed in the host rock.

GEOCHEMICAL DATA:

A grab sample of pyrite-bearing quartz vein assayed 542 ppb Au; a grab sample of the host rock, collected in the immediate vicinity of the quartz vein, assayed 196 ppb Au. Gold concentrations up to 39.4 g/t were reportedly contained in drill core samples (San Antonio Gold Mines, 1950).

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Conley, W.J. Jr.

1983: Account of exploration activities in NW Wallace Lake; Manitoba Energy and Mines, Minerals Division, unpublished notes.

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

San Antonio Gold Mines

1950: Drill and sample report; Manitoba Energy and Mines (unpublished report).

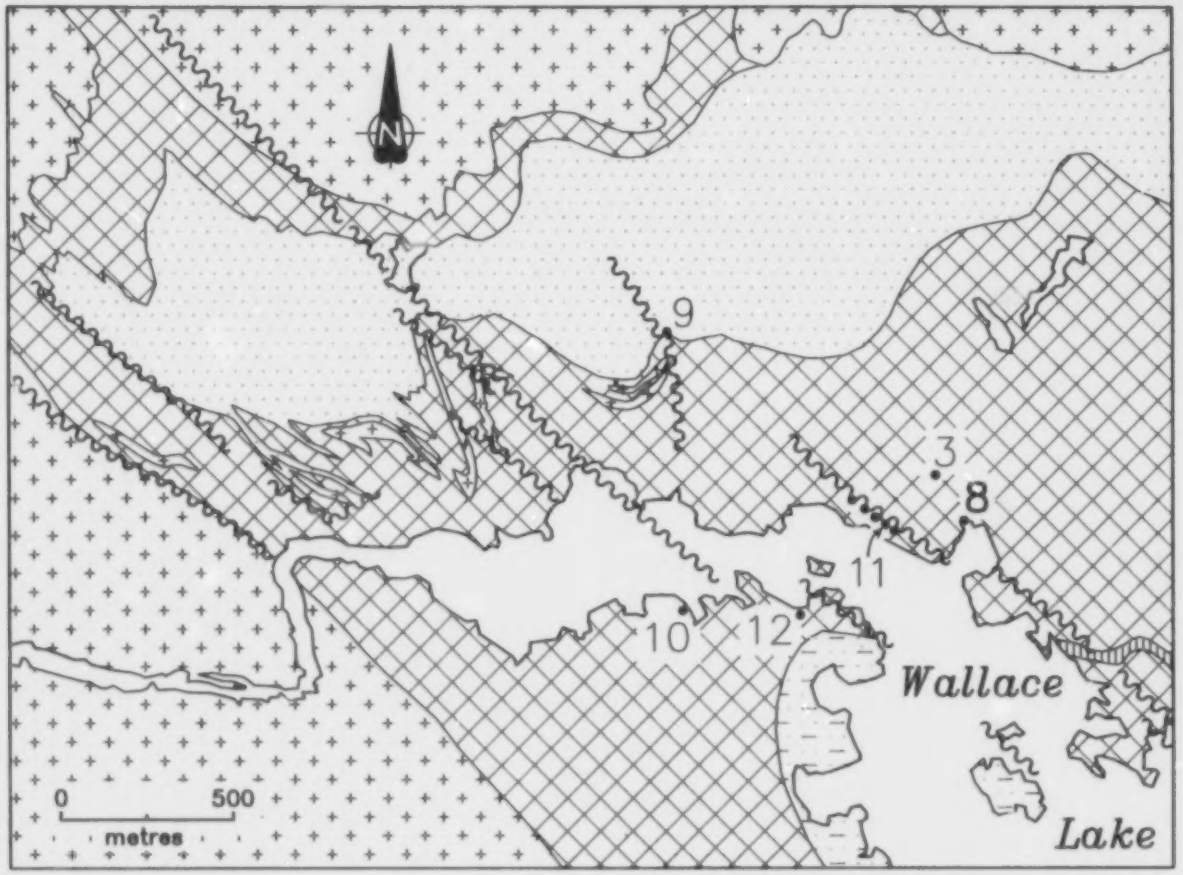


Figure 8-1: Geological setting of occurrence 8 (Moore vein).

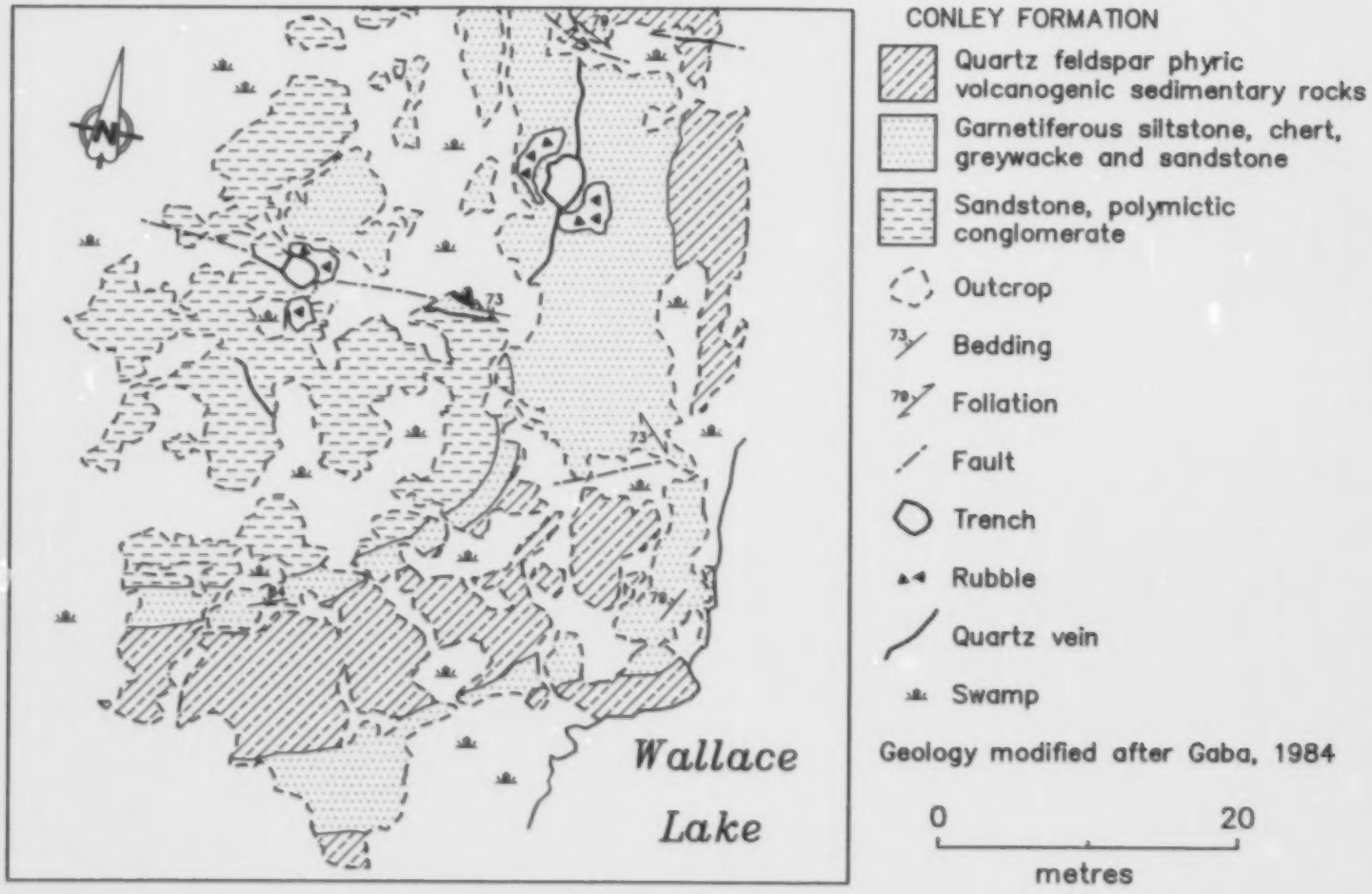
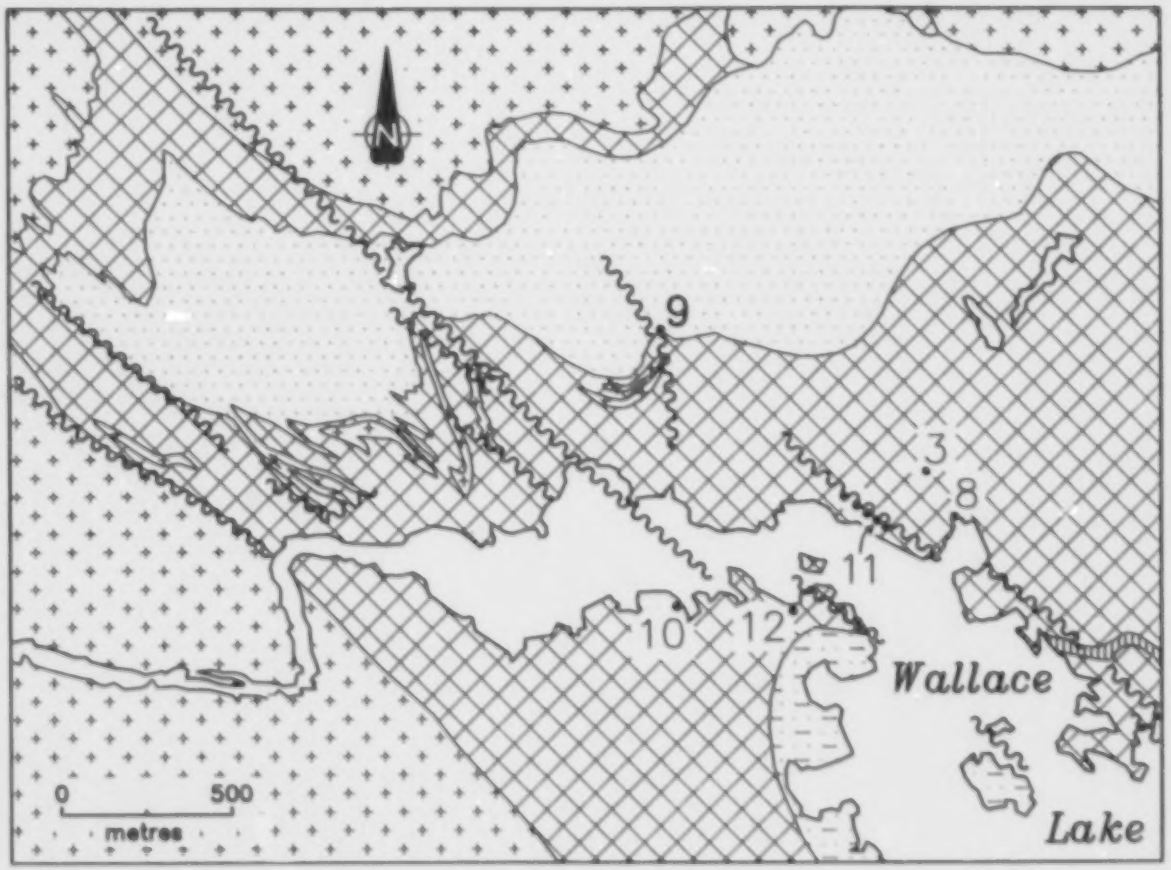


Figure 8-2: Detailed geology at occurrence 8 (Moore vein).



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate, basalt

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Shear zone

Geology after McRitchie (1971)

Figure 9-1: Geological setting of occurrence 9.

LOCATION: 9

NAME:

UTM: 5657038N/332176E

ACCESS: Via Wallace Lake and the Wanipigow River, and then traverse approximately 0.5 km north starting at a point approximately 0.5 km west of the mouth of the Wanipigow River into Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 9-1).

AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

One trench (2x2x1 m) was observed at this site in 1985. The area is currently staked and in good standing until May 1994.

GEOLOGICAL SETTING:

According to Gaba, (1985) the area is underlain by massive to weakly foliated Conley Formation sandstone. Chloritic quartz stringers in an approximately 1 m thick foliated zone are exposed in the trench.

MINERALIZATION:

Quartz stringers contain minor disseminated pyrite and trace arsenopyrite.

GEOCHEMICAL DATA:

A grab sample of the host rock and quartz veins assayed 2.2 g/t Au.

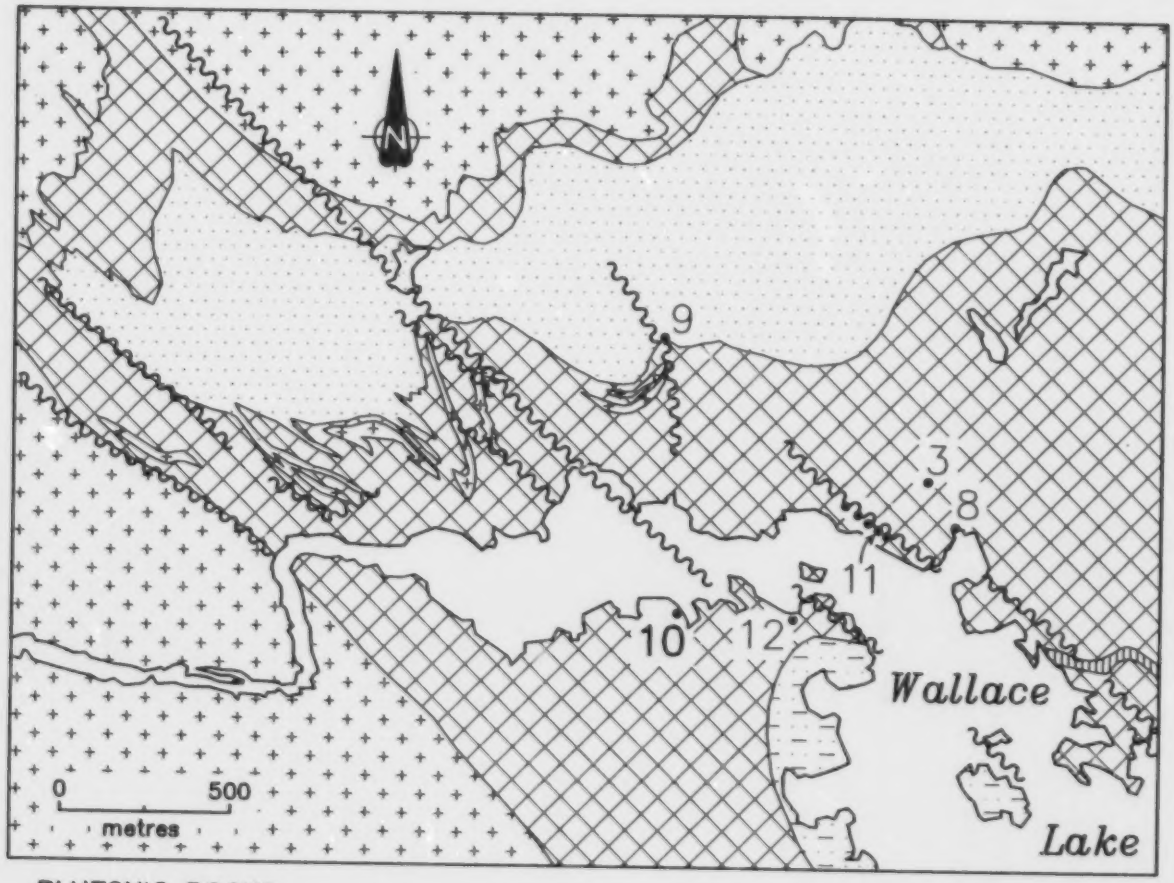
CLASSIFICATION:

Vein type deposit; multiple veins and lenses.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate, basalt

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Shear zone

Geology after McRitchie (1971)

Figure 10-1: Geological setting of occurrence 10.

LOCATION: 10

NAME: Banning trench
UTM: 5656303N/332191E
ACCESS: Via Wallace Lake. Approximately 8 m south of the lake shore.

AREA: Northwest Wallace Lake (Fig. 10-1).
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

W. Banning explored this area in the 1930's (Conley, 1983). A trench (2x1x1.5 m) was observed on this site in 1985. The area is currently staked and in good standing until March 1995.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation arkose, greywacke, quartzite and conglomerate and a, several metres thick, layer of magnetite-chert iron formation (Gaba, 1985).

MINERALIZATION:

Minor disseminated pyrite and subordinate chalcopyrite occur in quartz-carbonate veins and chert layers.

GEOCHEMICAL DATA:

W. Banning reported an assay of 1.7 g/t Au (W.J. Conley Jr., pers. comm., 1985). Three grab samples of sulphide-bearing iron formation and quartz veins collected in 1985 assayed 737 ppb, 464 ppb, and 309 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

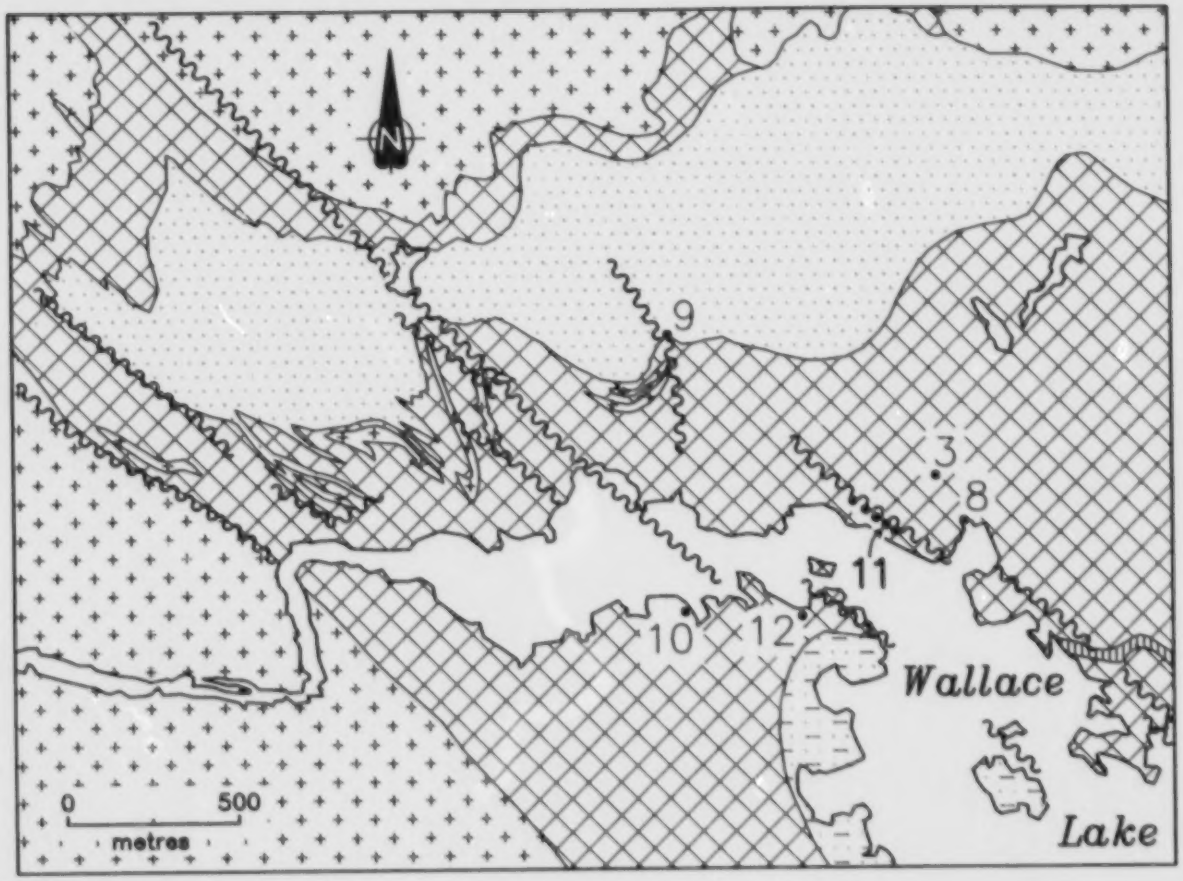
REFERENCES:

Conley, W.J. Jr.

1983: Account of exploration activities in NW Wallace Lake; Manitoba Energy and Mines, Minerals Division, unpublished notes.

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate, basalt

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Shear zone

Geology after McRitchie (1971)

Figure 11-1: Geological setting of occurrence 11.

LOCATION: 11

NAME:

UTM: 5656615N/332793E

ACCESS: Via Wallace Lake. Approximately 60 m north of the lake shore near the mouth of the Wanipigow River.

AREA: North Wallace Lake (Fig. 11-1).

AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

Five trenches were observed in this area in 1985. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation arkose, grit, quartzite, garnet-bearing quartz sandstone, greywacke and conglomerate. A discontinuous approximately 30 m long and 1 m thick carbonatized quartz vein is intermittently exposed.

MINERALIZATION:

Minor disseminated pyrite and subordinate arsenopyrite occur in the quartz vein.

GEOCHEMICAL DATA:

W.J. Conley Jr. reported an assay of up to 16 g/t Au in a grab sample from the trenches (W.J. Conley Jr., pers. comm., 1985).

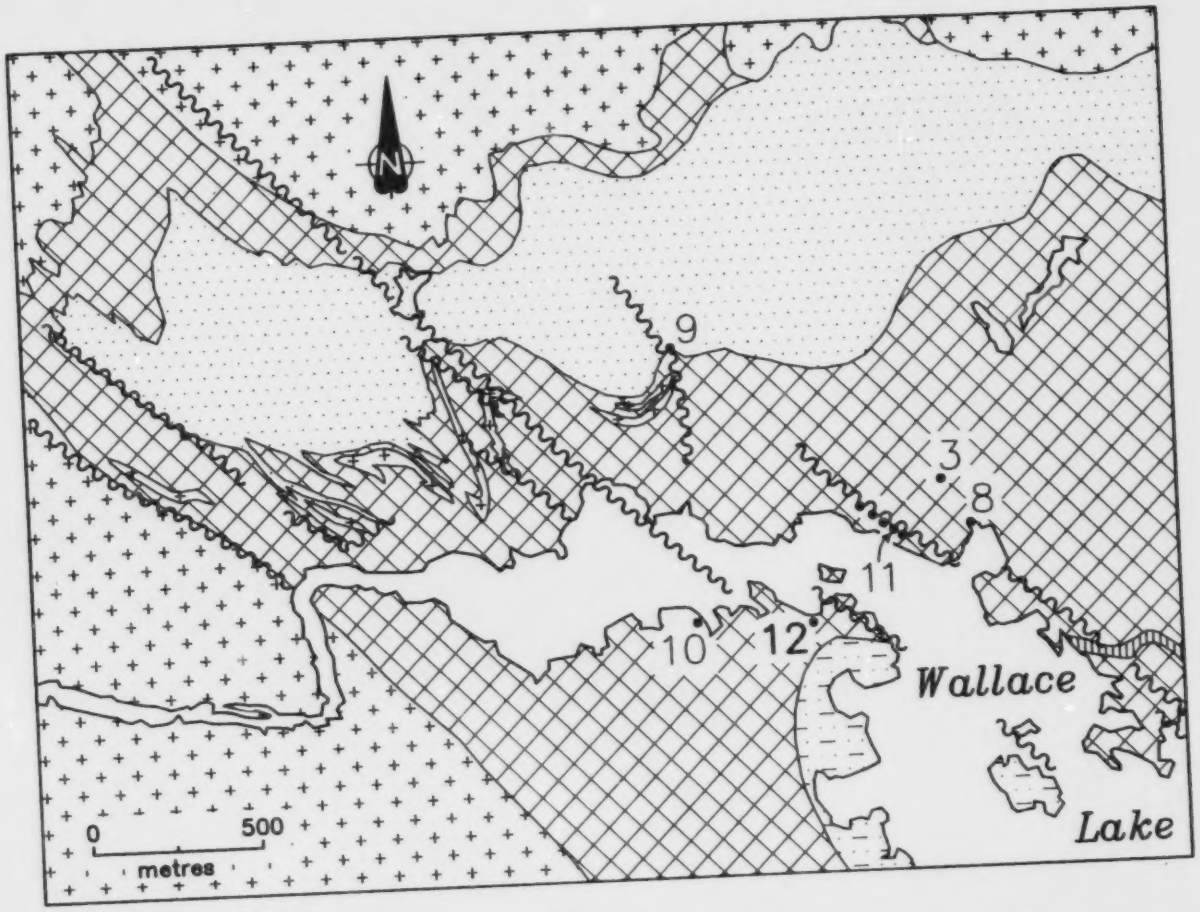
CLASSIFICATION:

Vein type deposit.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate, basalt

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Shear zone

Geology after McRitchie (1971)

Figure 12-1: Geological setting of occurrence 12.

LOCATION: 12

NAME:

UTM: 5656306N/332600E

ACCESS: Via Wallace Lake. The occurrence is located approximately 25 m south of the lake shore.

AREA: North Wallace Lake (Fig. 12-1)

AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

A trench (1x1x0.5 m) was observed on this site (Gaba, (1985). The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation arkose, grit, quartzite, greywacke and conglomerate interlayered with minor magnetite-chert iron formation.

MINERALIZATION:

Veinlets and minor disseminations of pyrite, chalcopyrite and, in places, pyrrhotite and malachite occur in a 1 by 5 m zone.

GEOCHEMICAL DATA:

A grab sample of the mineralized iron formation assayed 173 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

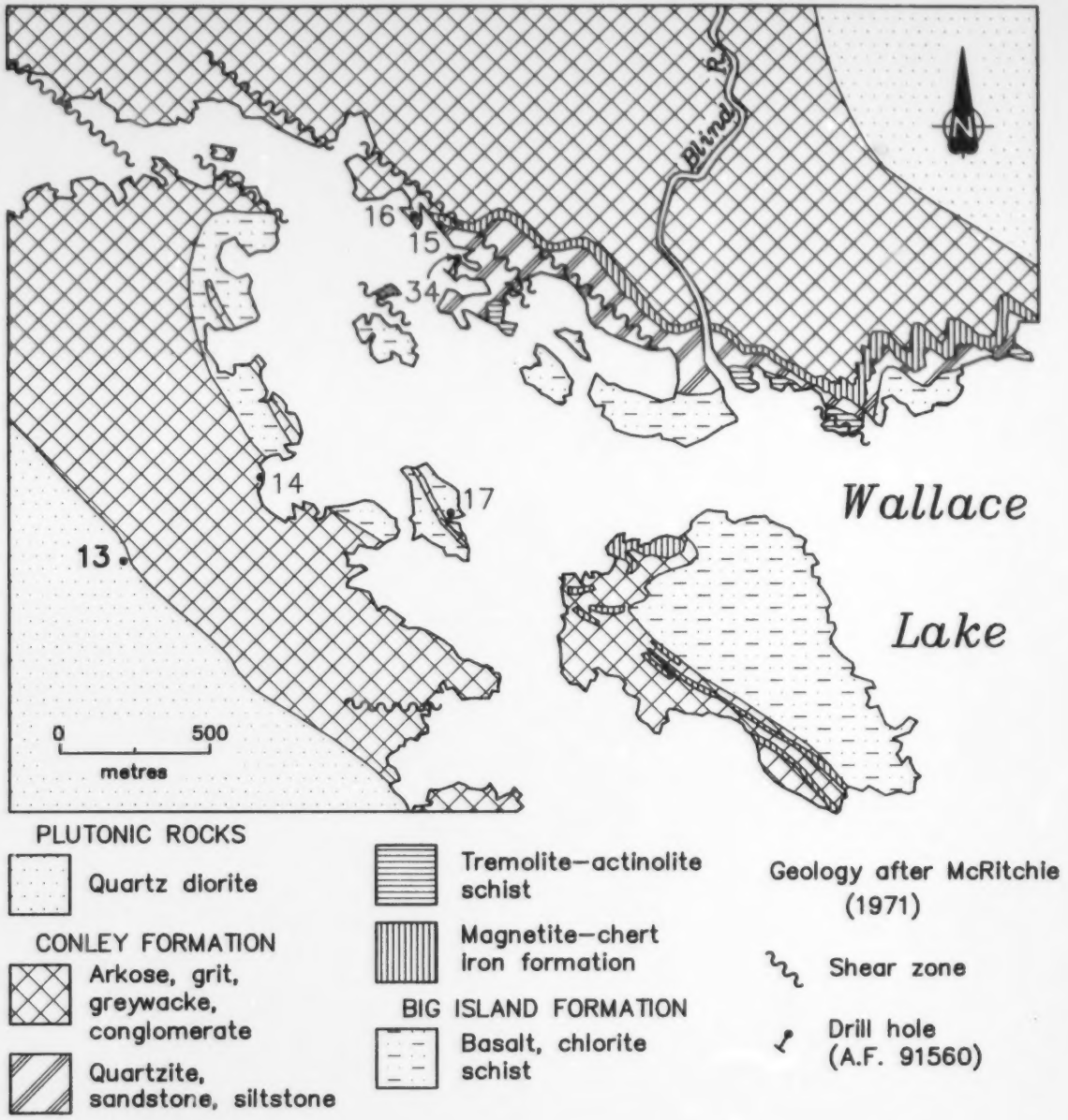


Figure 13-1: Geological setting of occurrence 13.

LOCATION: 13

NAME:

UTM: 5655123N/332497E

ACCESS: Via Wallace Lake and traverse 0.8 km west.

EXPLORATION SUMMARY:

Four pits were observed on this site (Gaba, 1985)(Fig. 13-2). The area is currently staked and in good standing until June 1994.

GEOLOGICAL SETTING:

The area is underlain by quartz diorite and Conley Formation garnet-bearing magnetite-chert iron formation interlayered with pebbly feldspathic sandstone, intruded by minor feldspar porphyry dykes.

MINERALIZATION:

Traces of chalcopyrite and molybdenite crystals occur in the iron formation.

AREA: Northwest Wallace Lake (Fig. 13-1).

AIRPHOTO: A24712-50

GEOCHEMICAL DATA:

Grab samples from the four pits contained 17 ppb, 51 ppb and 23 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba, R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

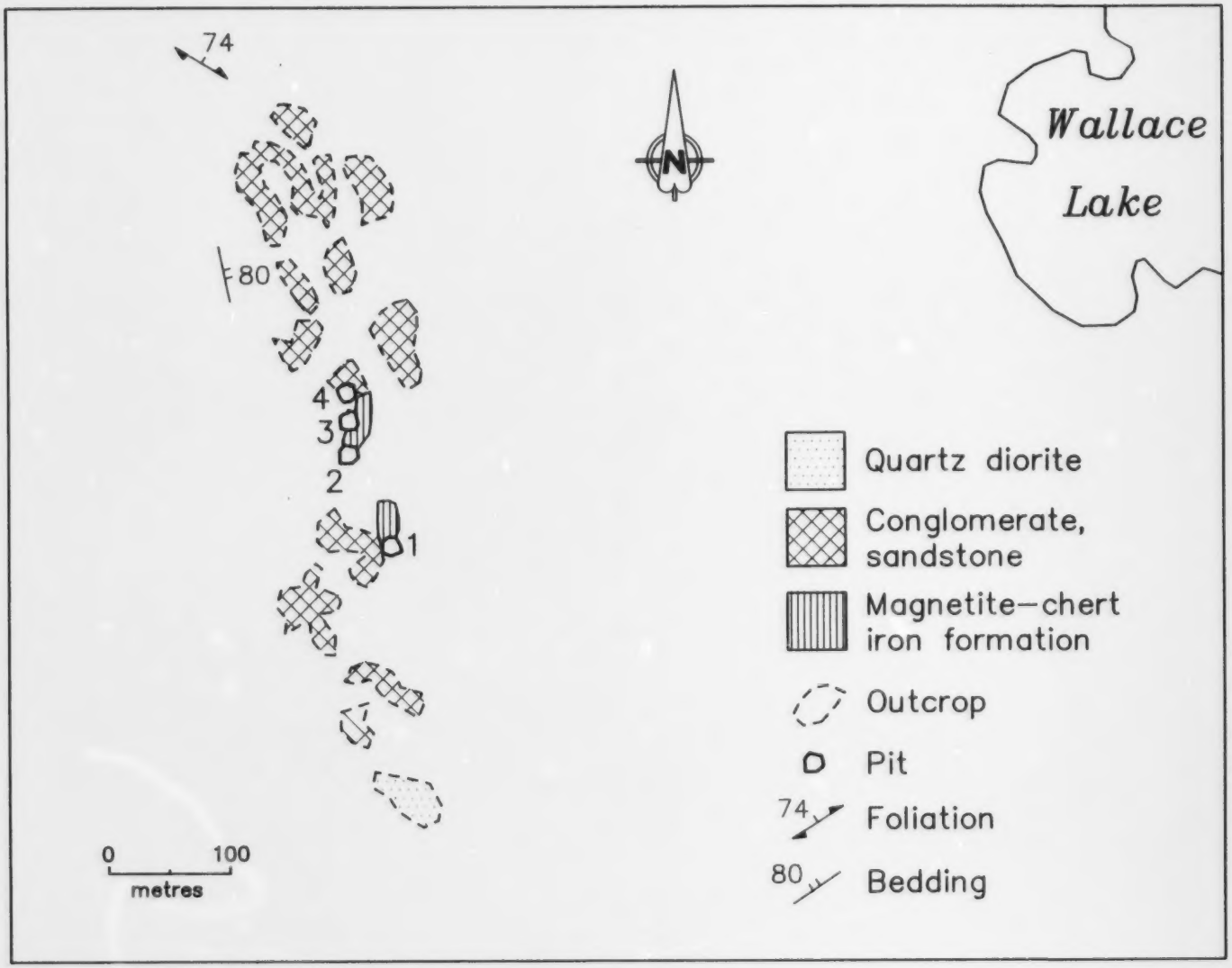


Figure 13-2: Detailed geology at occurrence 13.

LOCATION: 14

NAME: Peninsula Trench
UTM: 5655333N/332702E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 14-1).
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

One trench (2x2x1.5 m) was observed at this site in 1985 (Gaba, 1985) (Fig. 14-2). The area is currently staked and in good standing until June 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation pebbly feldspathic sandstone and oxide iron formation containing epidote- and carbonate-rich layers and minor basalt.

MINERALIZATION:

Discontinuous thin (1-2 cm) quartz veins contain minor disseminations and trains of pyrite.

GEOCHEMICAL DATA:

Two grab samples were collected and assayed from this site: sample 51-5-103, consisting of vein quartz and minor pyrite, contained 155 ppb Au; sample 51-5-104, consisting of iron formation, assayed 36 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

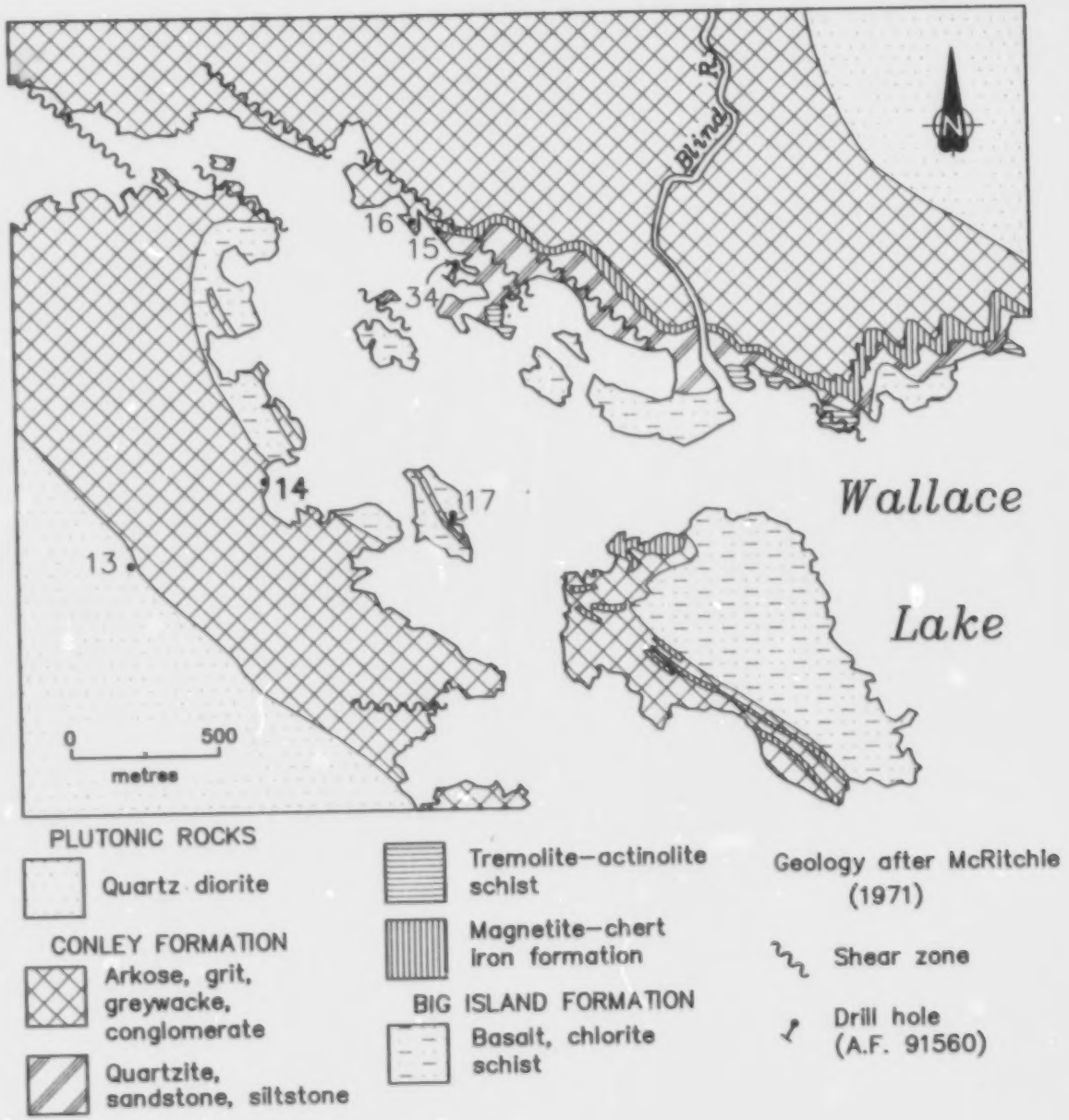


Figure 14-1: Geological setting of occurrence 14.

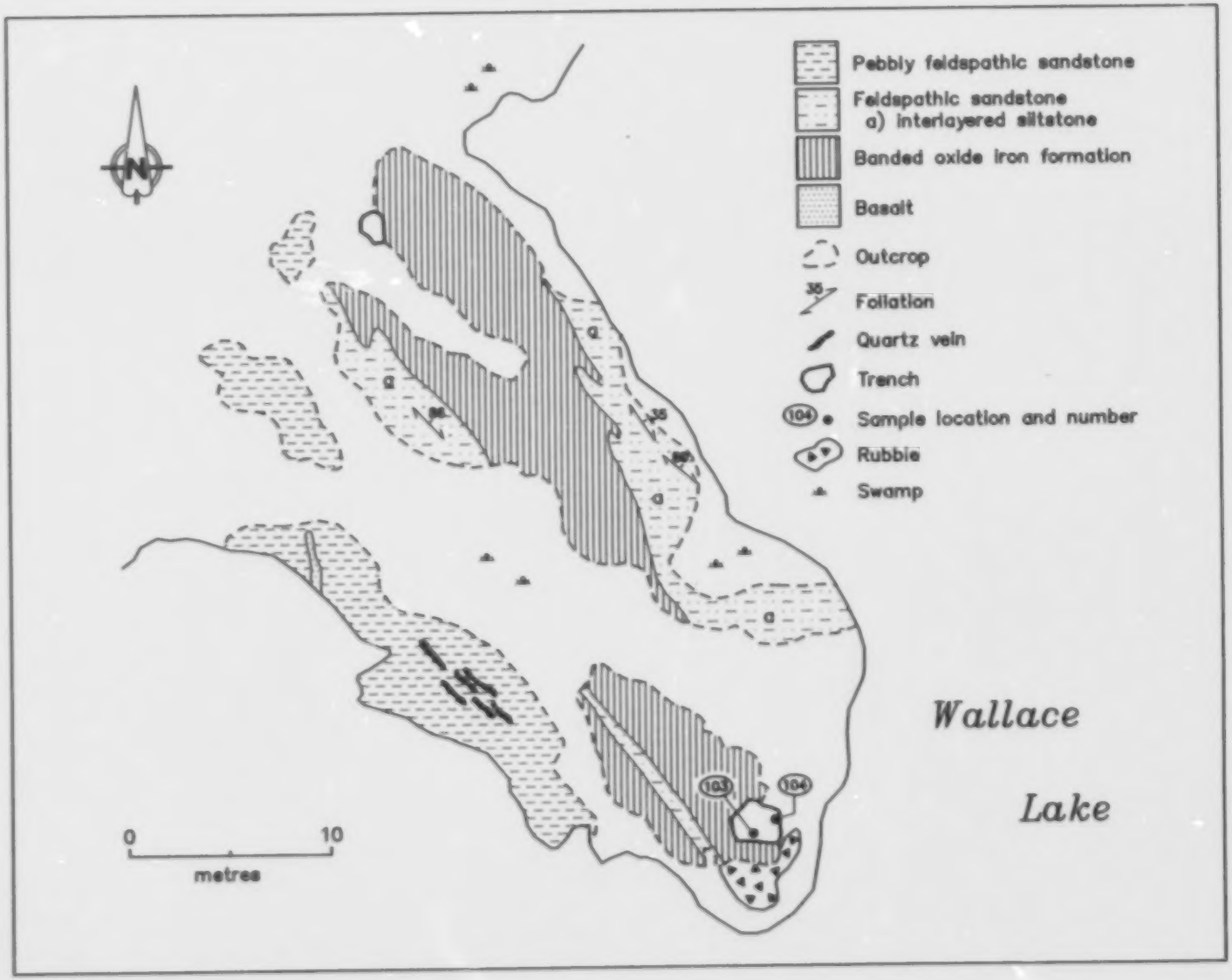


Figure 14-2: Detailed geology at occurrence 14.

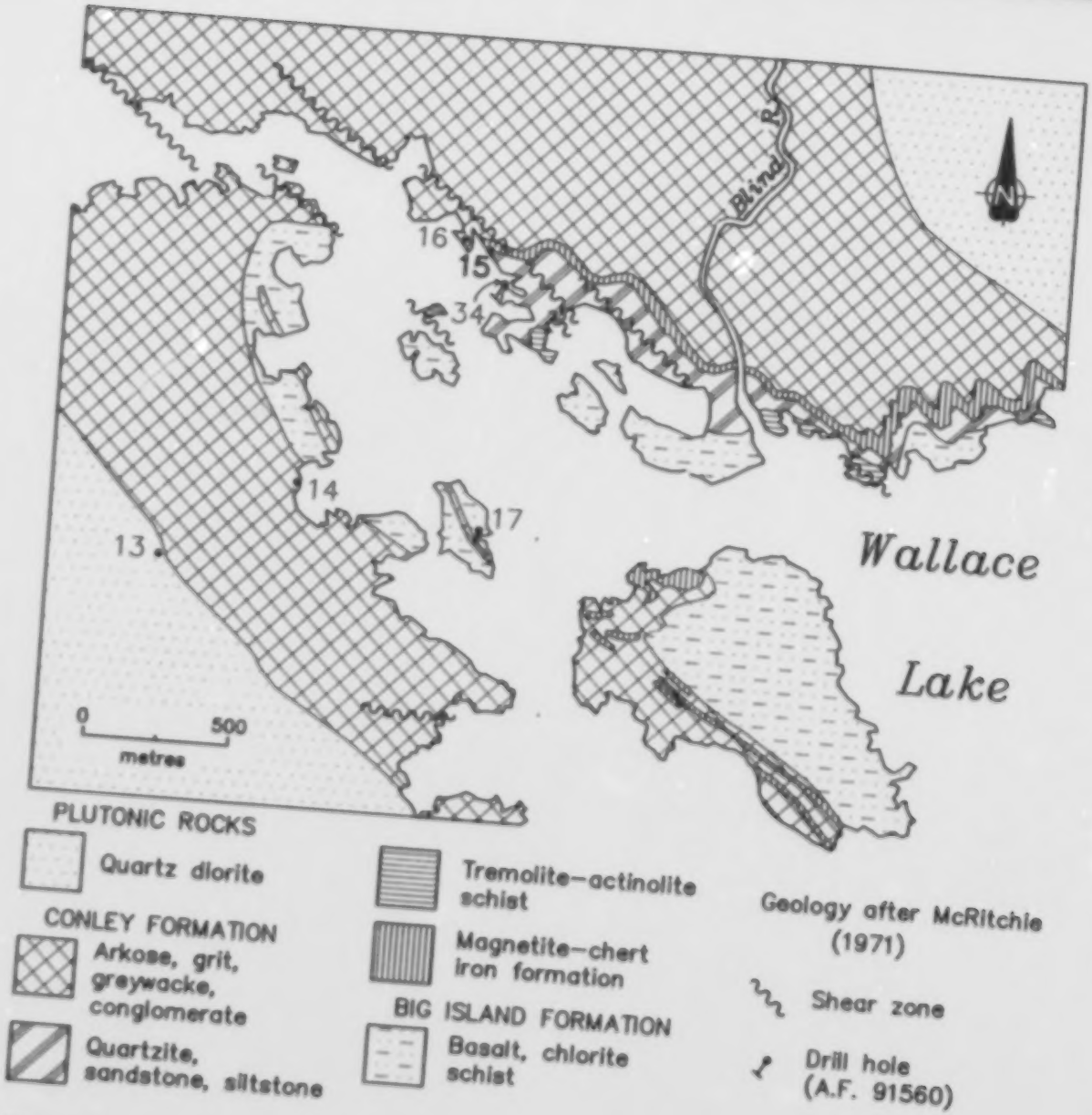


Figure 15-1: Geological setting of occurrence 15.

LOCATION: 15

NAME: Boundary Zone
UTM: 5856193N/333495E
ACCESS: Via Wallace Lake. The occurrence is located approximately 30 m east of the lake shore.

AREA: North Wallace Lake (Fig. 15-1)
AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

Two trenches (6x2x2 m, 4x2x1.5 m) were observed on this site in 1985. This mineralized zone has been sampled by staff of San Antonio Gold Mines and by W.J. Conley Jr. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation magnetite-chert iron formation interlayered with basalt and amphibolite (Gaba, 1985).

MINERALIZATION:

Veinlets and disseminations of pyrite occur in 1 to 2 cm quartz veins hosted by iron formation and basalt.

GEOCHEMICAL DATA:

Gold occurs in the Boundary Zone in concentrations up to 10.4 g/t according to W.J. Conley Jr. (W.J. Conley Jr., unpublished notes, 1983). .San Antonio Gold Mines (1950) report an assay of 8.3 g/t Au in a sample from this occurrence. Two grab samples collected by staff of Energy and Mines in 1985, consisting of pyrite-bearing vein quartz in iron formation, assayed 11.1 g/t and 3.1 g/t Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCES:

Gaba, R.G.

1985a: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

San Antonio Gold Mines

1950: Drill and sample report; Manitoba Energy and Mines (unpublished report).

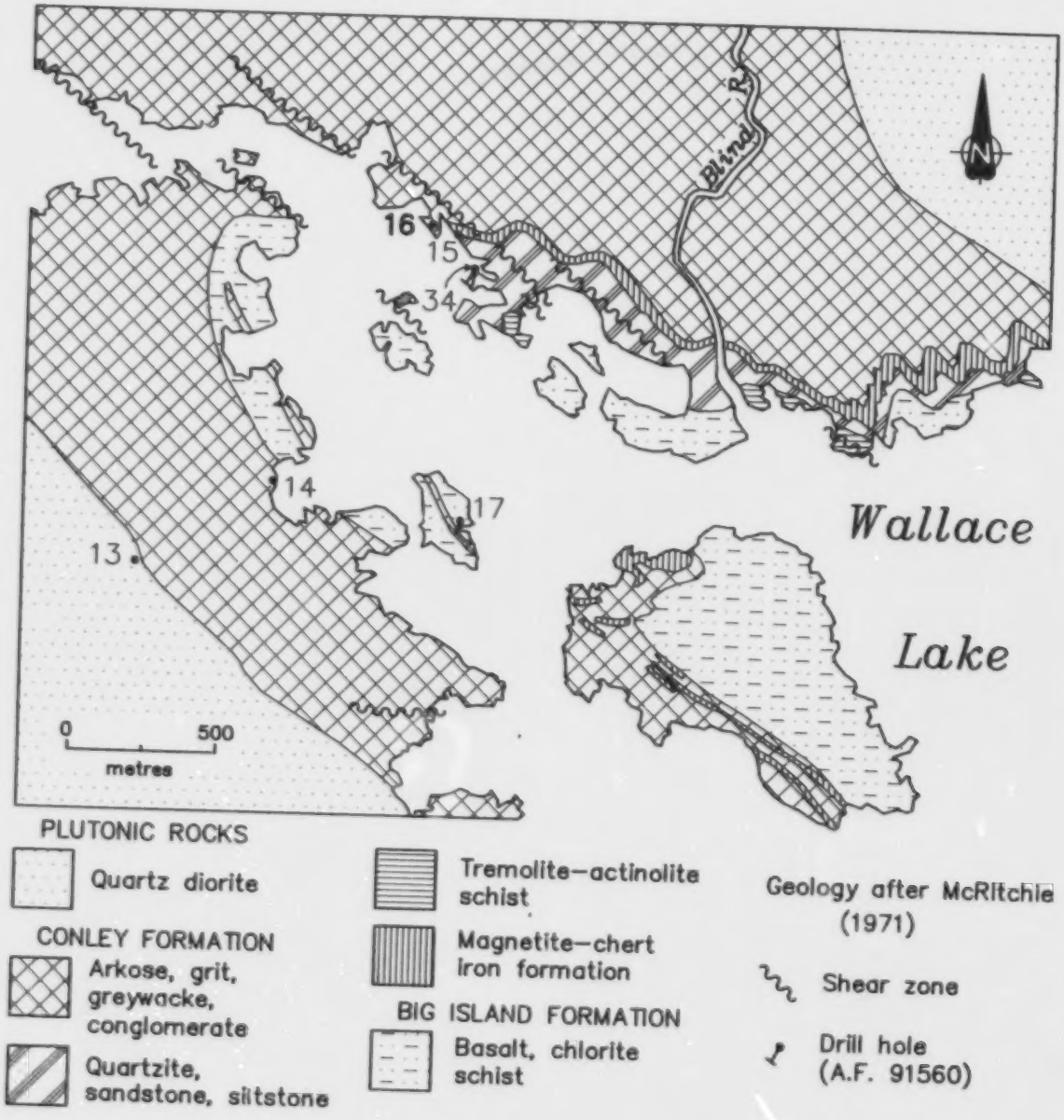


Figure 16-1: Geological setting of occurrence 16.

LOCATION: 16

NAME:

UTM: 5656218N/333272E

ACCESS: Via Wallace Lake. The occurrence is located on a small island.

AREA: Northwestern Wallace Lake (Fig. 16-1)

AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

A trench (3x3x1 m) was observed at this location in 1985. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation magnetite-chert iron formation interlayered with thin basalt layers (Gaba, 1985).

MINERALIZATION:

The magnetite-chert iron formation contains traces of disseminated pyrite.

GEOCHEMICAL DATA:

A grab sample of the magnetite-chert iron formation assayed <12 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

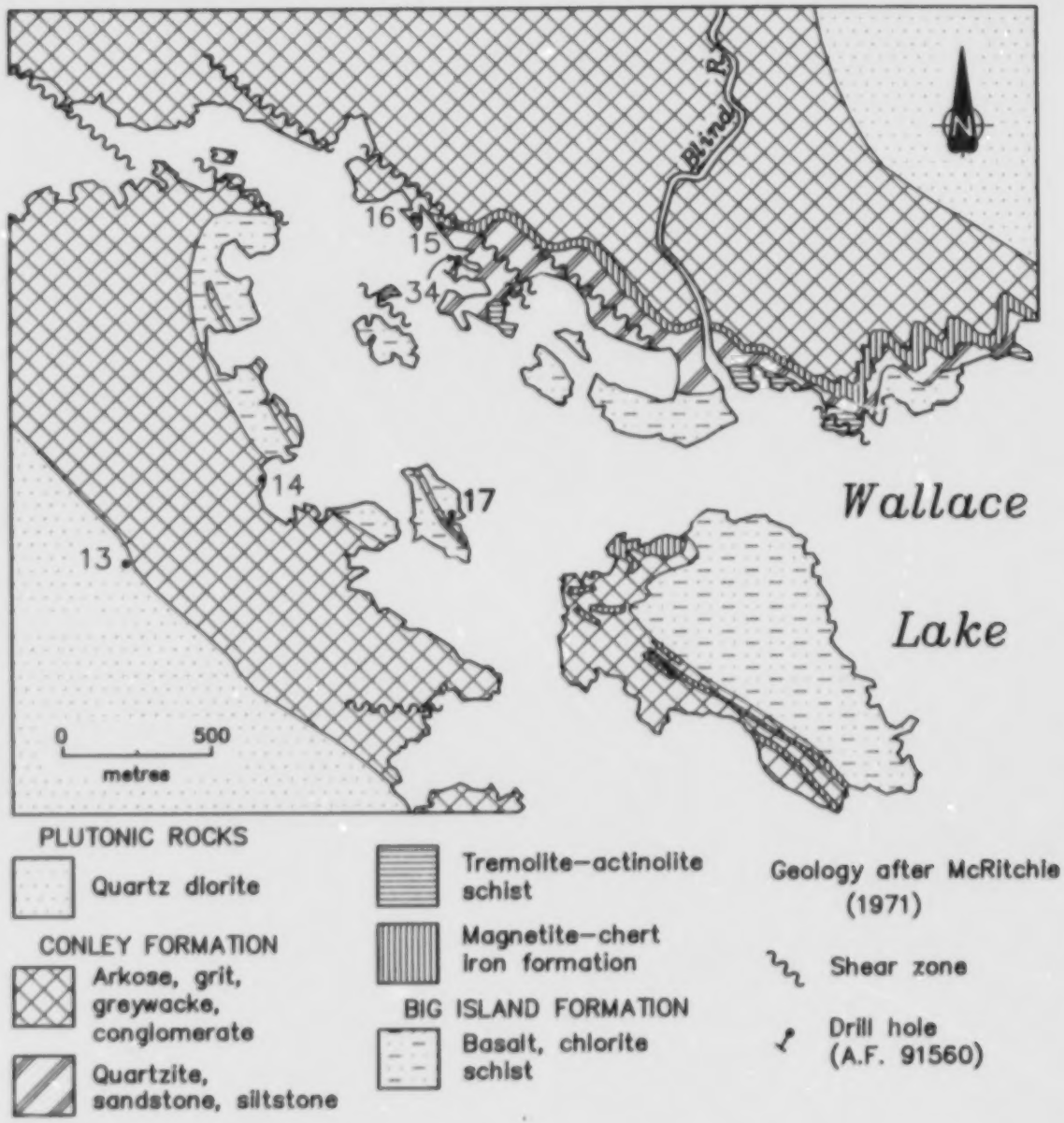


Figure 17-1: Geological setting of occurrence 17.

LOCATION: 17

NAME:

UTM: 5655263N/333343E

ACCESS: Via Wallace Lake. The occurrence is located on a small island in northeast Wallace Lake.

AREA: Northeast Wallace Lake (Fig. 17-1)

AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

One trench (8x2x1.5 m) was observed at this site in 1985. The area is currently staked and in good standing until September 1994.

GEOLOGICAL SETTING:

The area is underlain by Big Island Formation basalt and minor magnetite-chert iron formation (Gaba, 1985).

MINERALIZATION:

Several up to 2 mm thick pyrite layers occur in the iron formation. Quartz veins in the basalt contain traces of disseminated pyrite.

GEOCHEMICAL DATA:

A grab sample consisting of pyrite-bearing iron formation from the trench contained 223 ppb Au.

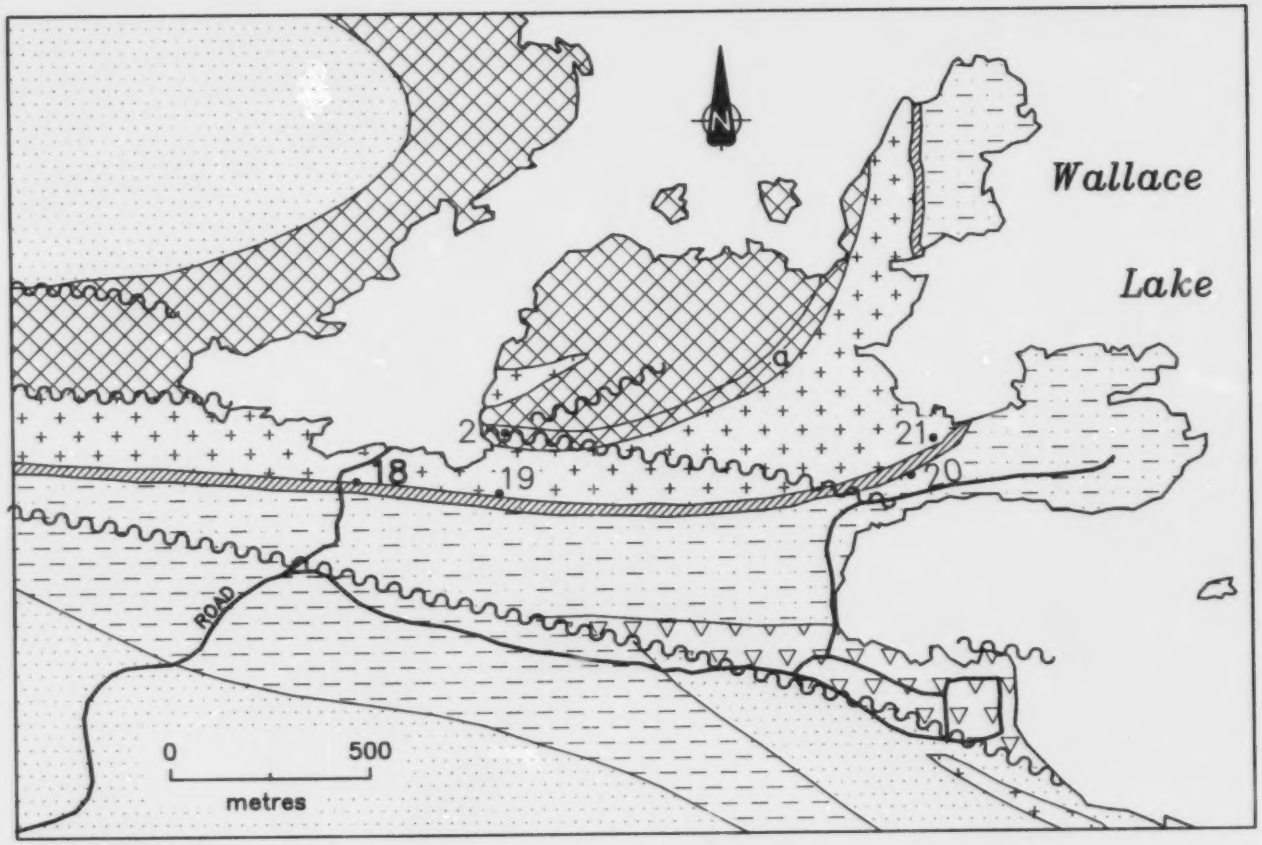
CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba, R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke
a) locally with limestone

Magnetite–chert iron formation

Argillite–mudstone

BIG ISLAND FORMATION

Basalt, chlorite schist

Felsic–intermediate volcanic wackes and phyllites

Geology after McRitchie (1971)

Shear zone

Figure 18-1: Geological setting of occurrence 18.

LOCATION: 18

NAME:

UTM: 5652936N/333481E

ACCESS: Via Provincial Road 304 to the Wallace Lake access road proceeding to the Wallace Lake garbage dump. The occurrence is approximately 0.2 km north of the dump.

AREA: South Wallace Lake (Fig. 18-1).

AIRPHOTO: A24710-47

EXPLORATION SUMMARY:

A trench (5x2x1.5 m) was observed on this site in 1985. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The mineralization occurs in an approximately 5 m thick layer of Conley Formation magnetite-chert iron formation and black carbonaceous slate.

MINERALIZATION:

Up to 15% pyrite occurs in lenses, disseminations and mm- thick layers in the iron formation.

GEOCHEMICAL DATA:

Two grab samples of pyrite-bearing iron formation from the trench assayed <12 ppb and 22 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

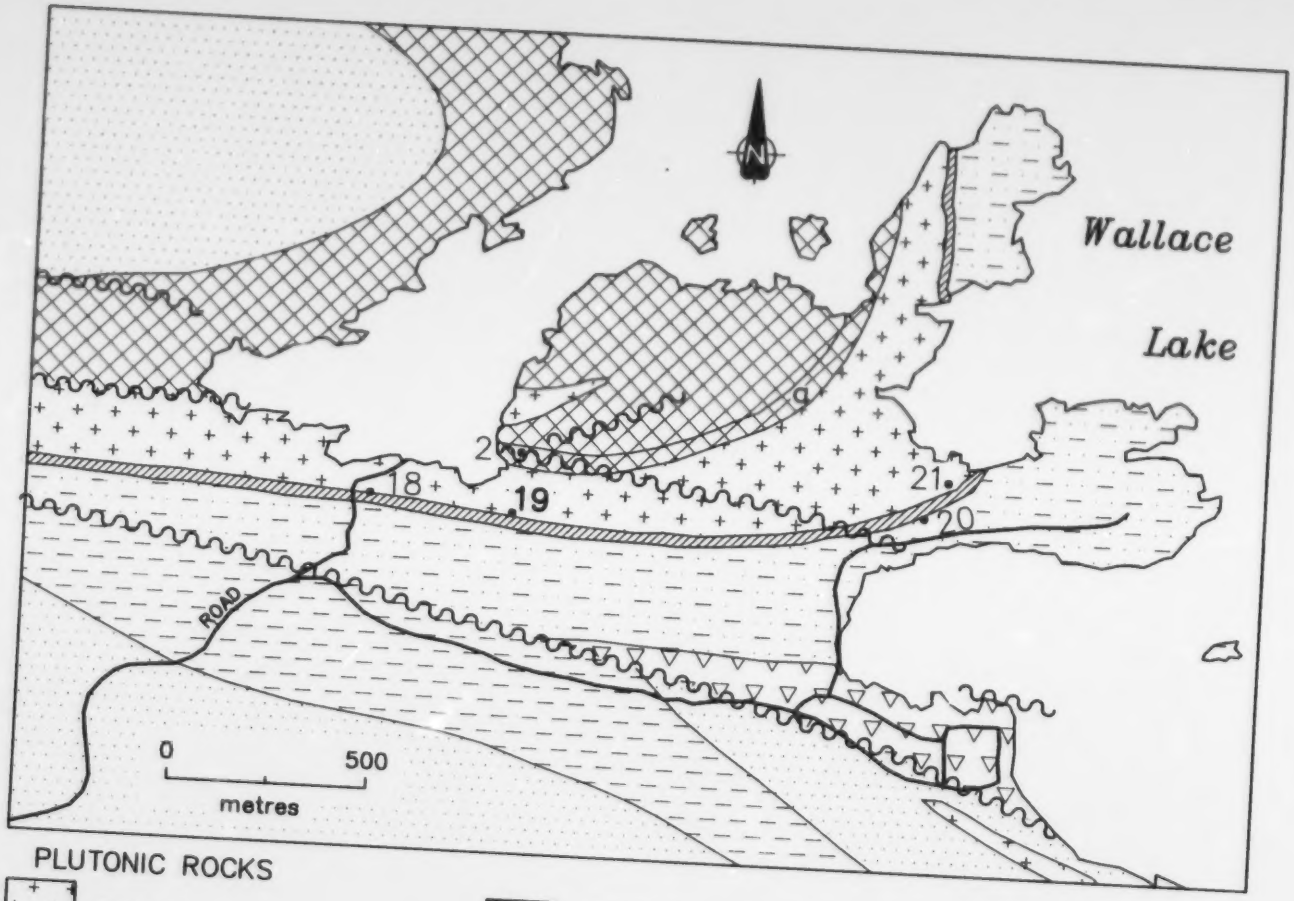


Figure 19-1: Geological setting of occurrence 19.

LOCATION: 19

NAME:

UTM: 5652864N/333862E

ACCESS: Via Provincial Road 304 to the Wallace Lake access road proceeding to the garbage dump. The occurrence is approximately 0.3 km northeast of the nuisance ground.

AREA: South Wallace Lake (Fig. 19-1).

AIRPHOTO: A24710-47

EXPLORATION SUMMARY:

A trench (7x3x2 m) was observed at this site in 1985. The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The mineralization occurs in an approximately 7 m thick layer of Conley Formation magnetite-chert iron formation and black carbonaceous slate.

MINERALIZATION:

Trace pyrite is present in the iron formation.

GEOCHEMICAL DATA:

A grab sample of pyrite-bearing iron formation from the trench assayed <12 ppb Au.

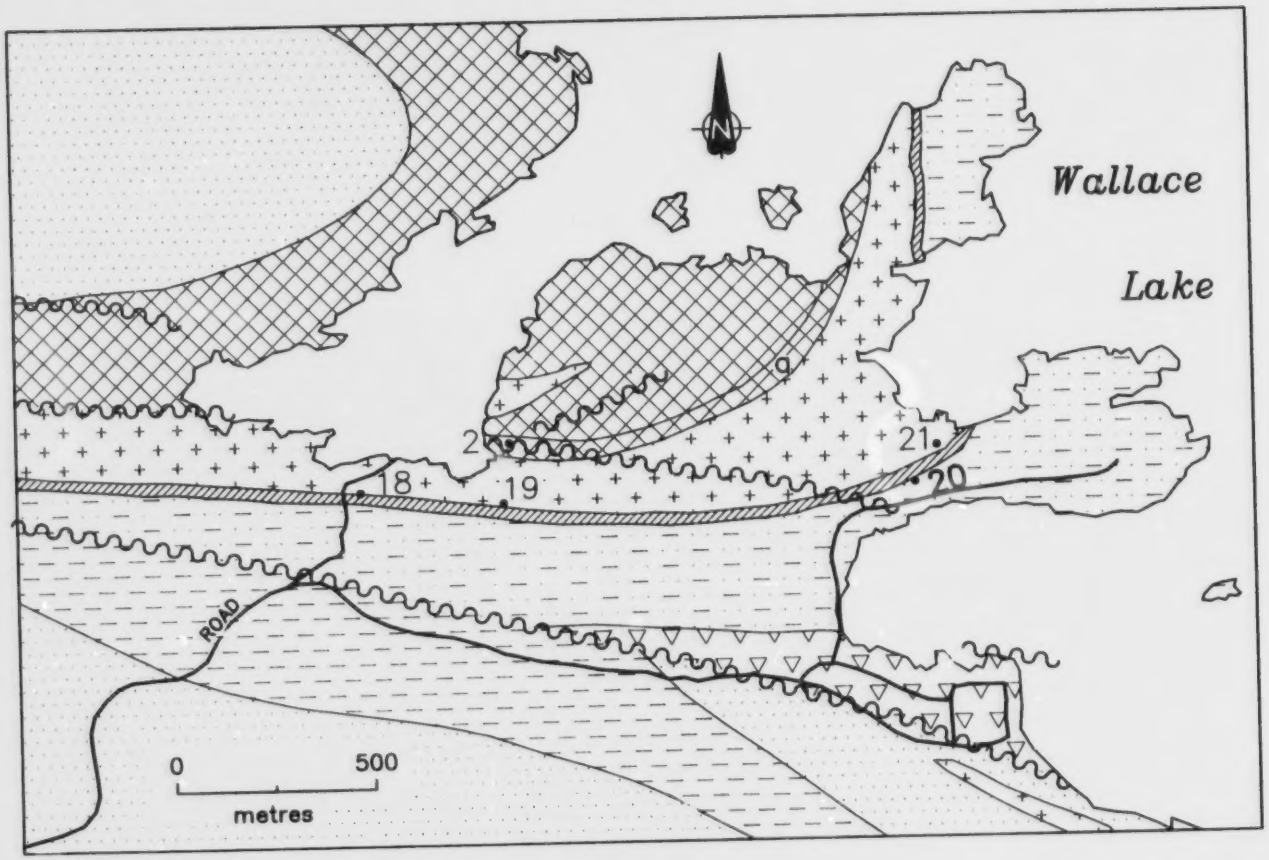
CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke
a) locally with limestone

Magnetite–chert iron formation

Argillite–mudstone

BIG ISLAND FORMATION

Basalt, chlorite schist

Felsic–intermediate volcanic wackes and phyllites

Geology after McRitchie (1971)

Shear zone

Figure 20-1: Geological setting of occurrence 20.

LOCATION: 20

NAME:

UTM: 5652984N/334940E

ACCESS: Via Provincial Road 304 to the Wallace Lake cottage subdivision. The occurrence is located between two cottages adjacent to the northern access road.

AREA: South Wallace Lake (Fig. 20-1)

AIRPHOTO: A24710-47

EXPLORATION SUMMARY:

A trench (2x1x1 m) was observed at this site in 1985. The area is currently staked and in good standing until September 1991.

GEOLOGICAL SETTING:

The mineral occurrence is hosted by Conley Formation magnetite-chert iron formation.

MINERALIZATION:

Trace pyrite is present in the iron formation.

GEOCHEMICAL DATA:

A grab sample of pyrite-bearing iron formation from the trench assayed 28 ppb Au.

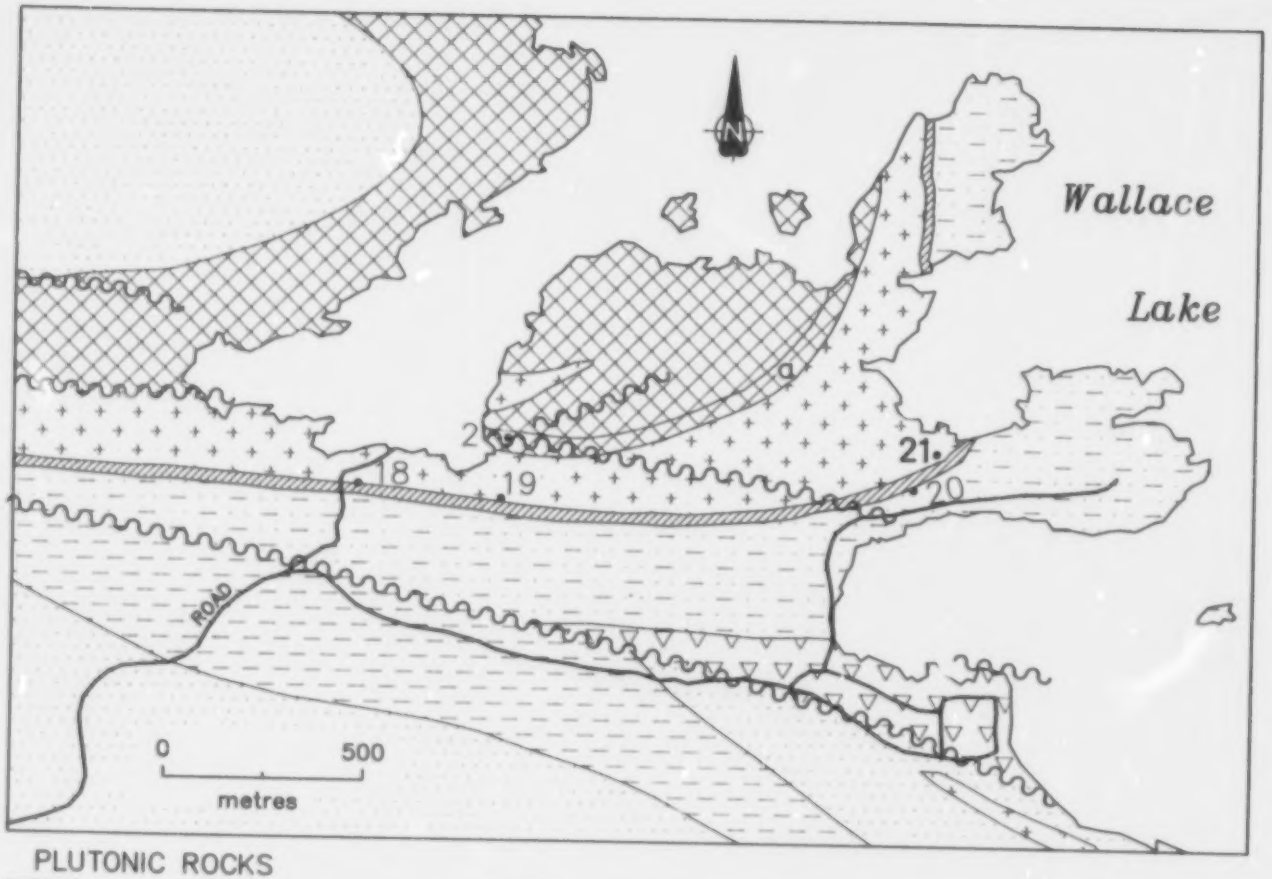
CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.



PLUTONIC ROCKS

Gabbro

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke
a) locally with limestone

Magnetite–chert iron formation

Argillite–mudstone

BIG ISLAND FORMATION

Basalt, chlorite schist

Felsic–intermediate volcanic wackes and phyllites

Geology after McRitchie (1971)

Shear zone

Figure 21-1: Geological setting of occurrence 21.

LOCATION: 21

NAME:

UTM: 5653046N/335067E

ACCESS: Via Provincial Road 304 to the Wallace Lake cottage subdivision. The mineral occurrence is located behind a lake shore cabin off the access road to the northern cottages.

AREA: South Wallace Lake (Fig. 21-1).

AIRPHOTO: A24710-47

EXPLORATION SUMMARY:

A trench (5x2x1 m) was observed at this site in 1985. The area is currently staked and in good standing until September 1991.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation magnetite-chert iron formation and sheared mafic volcanic rocks.

MINERALIZATION:

Trace pyrite is present in the iron formation.

GEOCHEMICAL DATA:

A grab sample of pyrite-bearing iron formation from the trench assayed <12 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

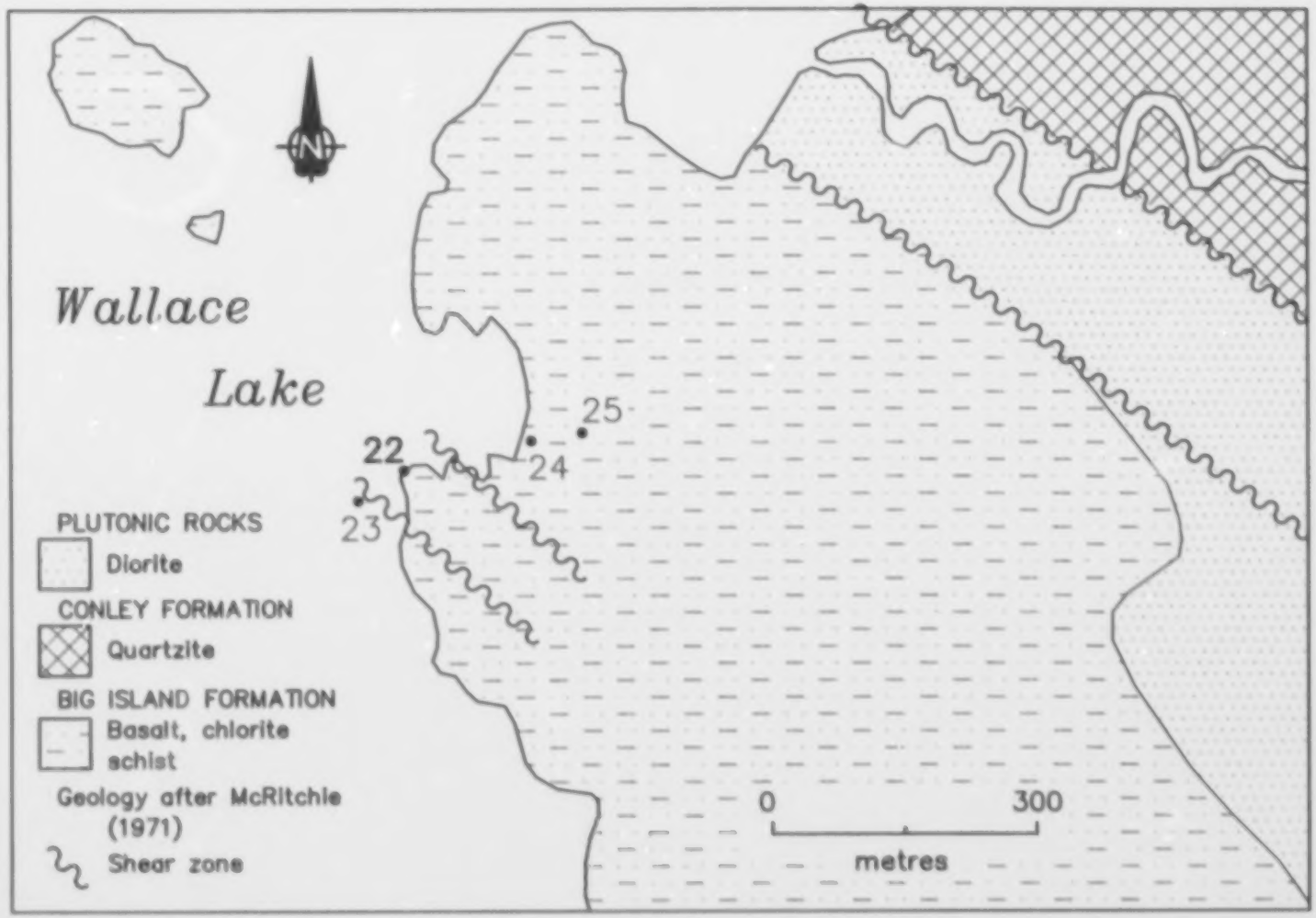


Figure 22-1: Geological setting of occurrence 22 (Lauson pit).

LOCATION: 22

NAME: Lauson trenches
UTM: 5653343N/336472E
ACCESS: Via Wallace Lake.

AREA: East Wallace Lake (Fig. 22-1)
AIRPHOTO: A24670-92

EXPLORATION SUMMARY:

Two trenches (2x1x1 m; 4x2x1 m) were observed on this site in 1985. The area is currently staked and in good standing until April 1992.

GEOLOGICAL SETTING:

An approximately 0.3 m to 1 m thick layer of Big Island Formation magnetite-chert iron formation is bounded by sheared and silicified basalt.

MINERALIZATION:

Trace to minor pyrite is present in the iron formation.

GEOCHEMICAL DATA:

Up to 17 g/t Au are contained in samples from this occurrence (W.J. Conley Jr., pers comm. to R.G. Gaba, 1985). Four 1 m long chip samples (Fig. 22-2) consisting of silicified andesite/basalt and/or pyrite-bearing iron formation were assayed and contained:

Sample Number	Au (ppb)
51-85-105	357
51-85-106	<12
51-85-107	1041
51-85-108	<12

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

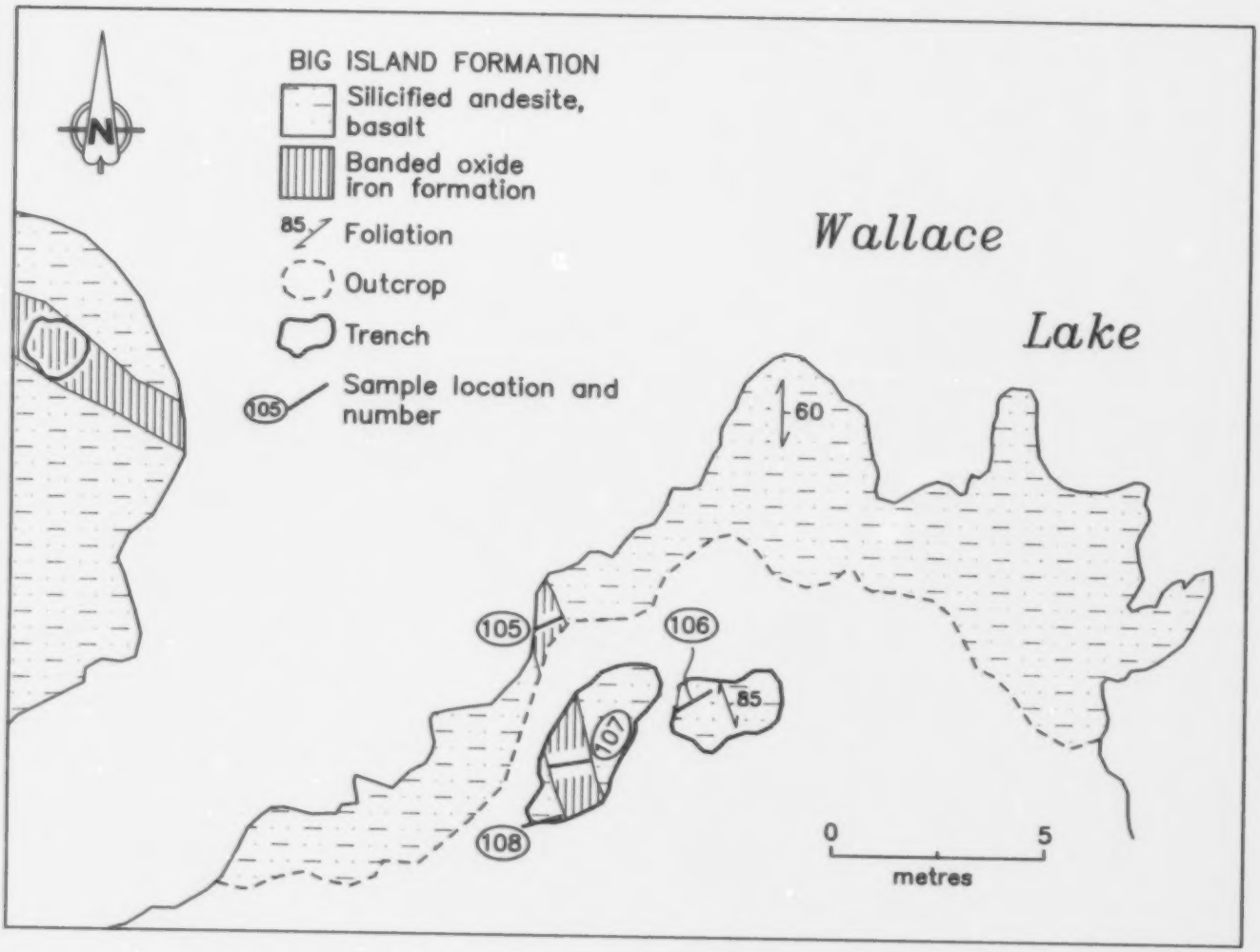


Figure 22-2: Detailed geology at occurrence 22.

LOCATION: 23

NAME:
UTM: 5653342N/336399E
ACCESS: Via Wallace Lake.

AREA: East Wallace Lake (Fig. 23-1).
AIRPHOTO: A24670-92

EXPLORATION SUMMARY:

A trench (1x1x1 m) was observed at this site in 1985. The area is currently staked and in good standing until April 1992.

GEOLOGICAL SETTING:

The area is underlain by Big Island Formation magnetite-chert iron formation and basalt. Big Island Formation magnetite-chert iron formation and quartz carbonate veins are exposed in the trench (Fig. 23-2).

MINERALIZATION:

Trace to minor disseminated pyrite occurs in the iron formation.

GEOCHEMICAL DATA:

A grab sample (51-85-112) of pyrite-bearing iron formation collected adjacent to the trench assayed 24 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

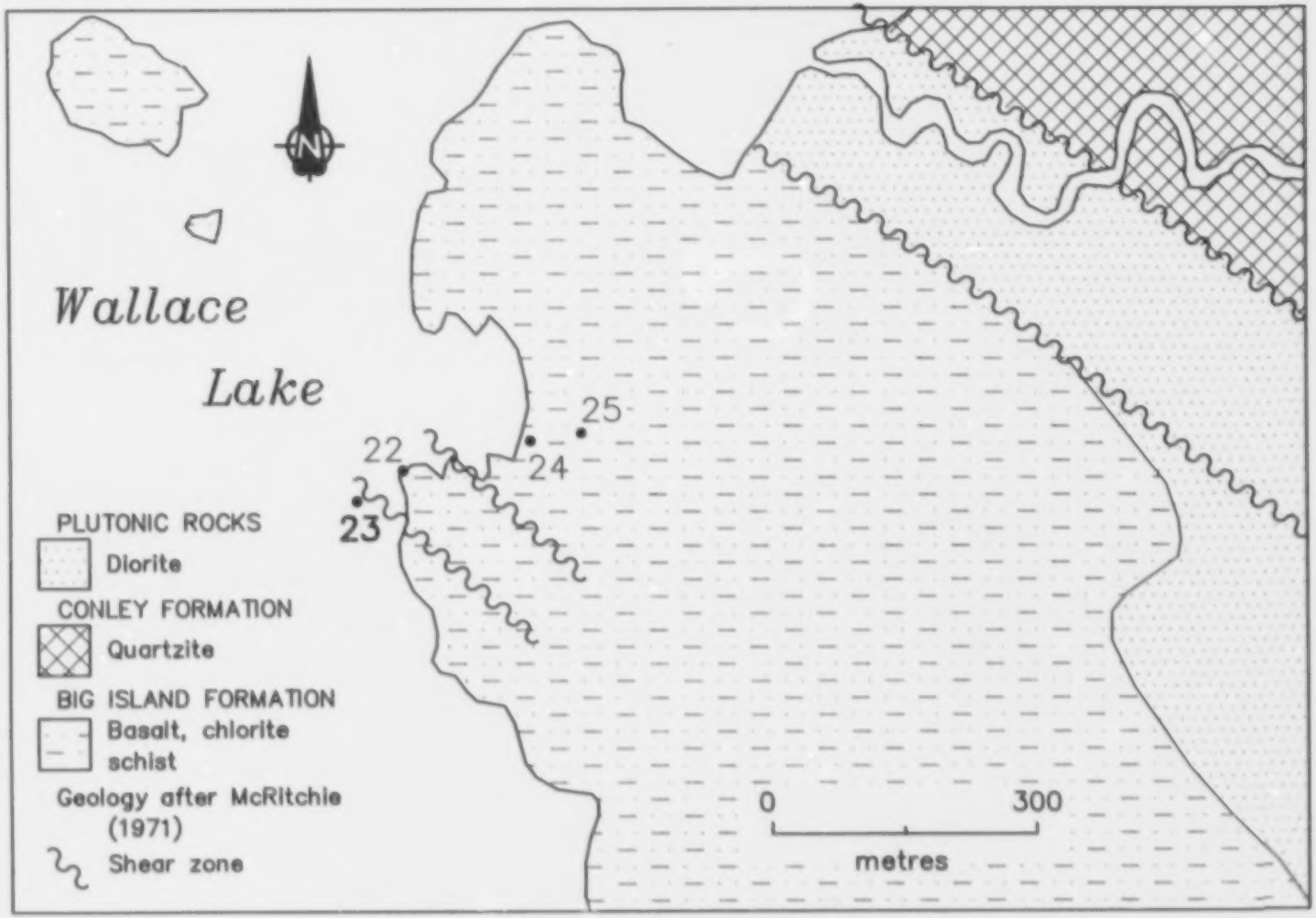


Figure 23-1: Geological setting of occurrence 23.

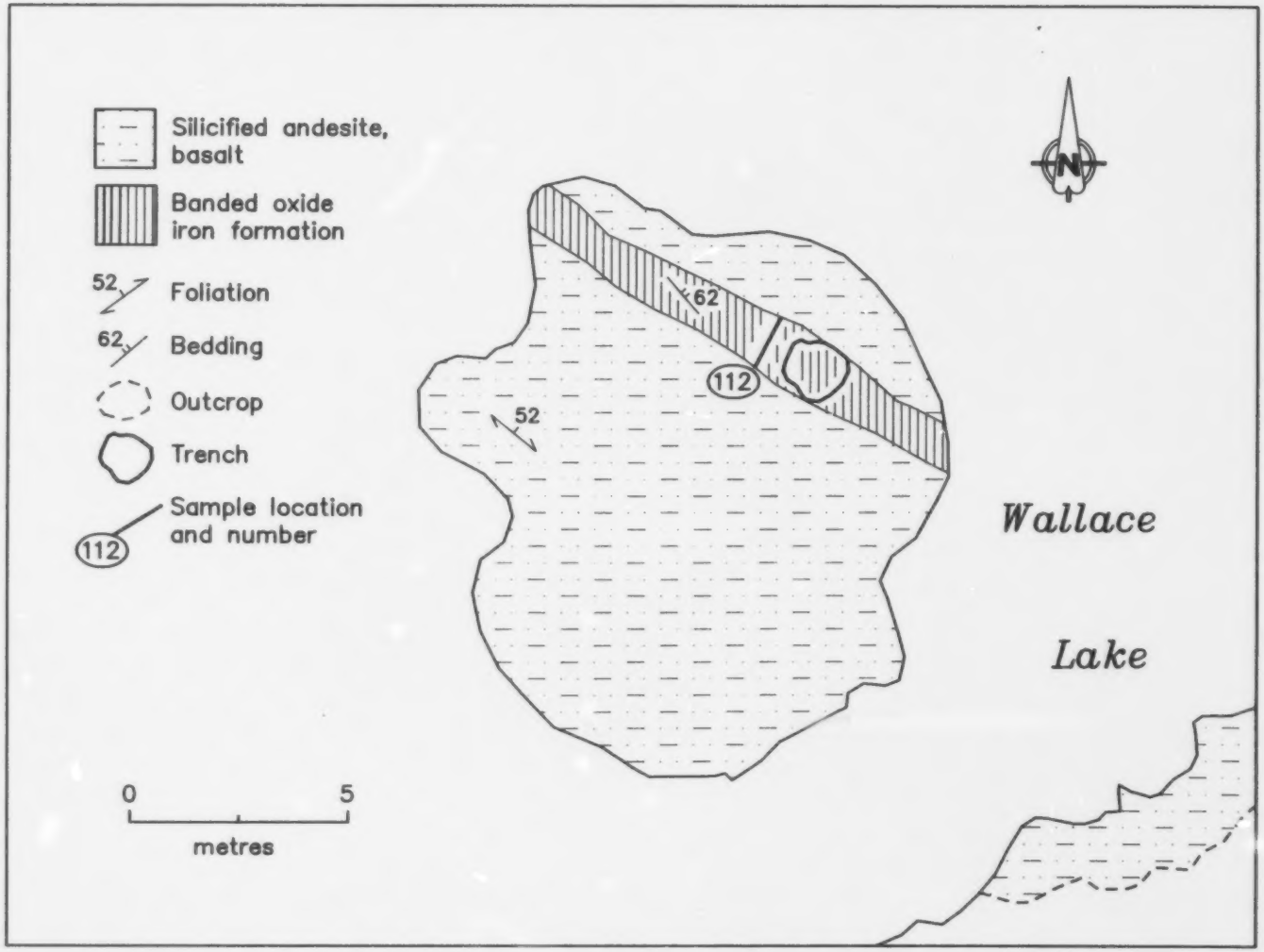


Figure 23-2: Detailed geology at occurrence 23.

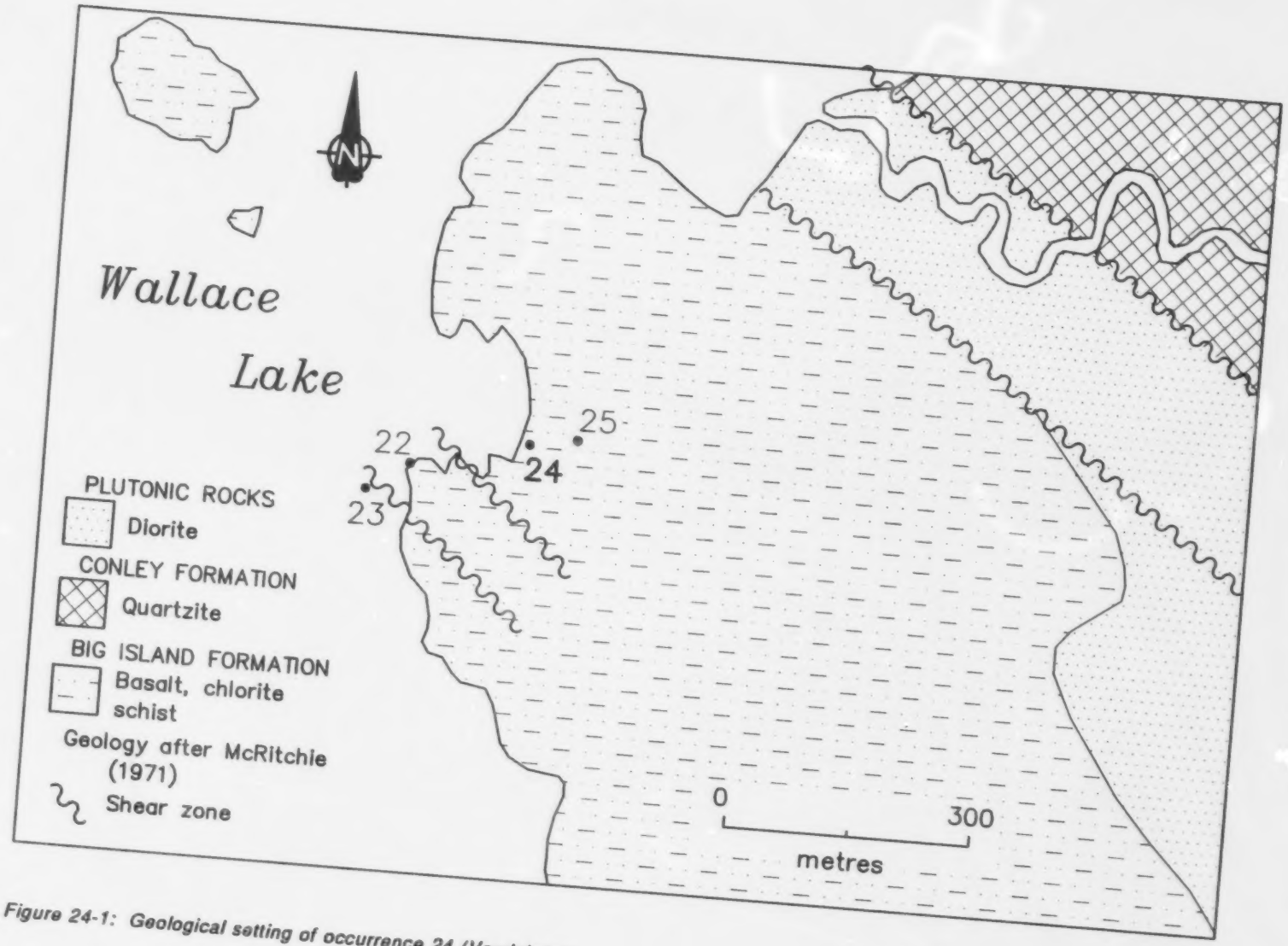


Figure 24-1: Geological setting of occurrence 24 (Vandebrink).

LOCATION: 24

NAME: Vandebrink
UTM: 5653331N/336604E
ACCESS: Via Wallace Lake.

AREA: West Wallace Lake (Fig. 24-1).
AIRPHOTO: A24670-92

EXPLORATION SUMMARY:

A trench (5x1.5x1.5 m) was observed at this site in 1985. The area is currently staked and in good standing until April 1992.

GEOLOGICAL SETTING:

The area is underlain by Big Island Formation magnetite-chert iron formation and basalt.

MINERALIZATION:

Trace to minor disseminated pyrite and arsenopyrite occur in quartz veins. The iron formation contains minor disseminated pyrite.

GEOCHEMICAL DATA:

Three grab samples of pyrite-bearing iron formation, collected from the trench, assayed 173 ppb, 399 ppb and 642 ppb Au.

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

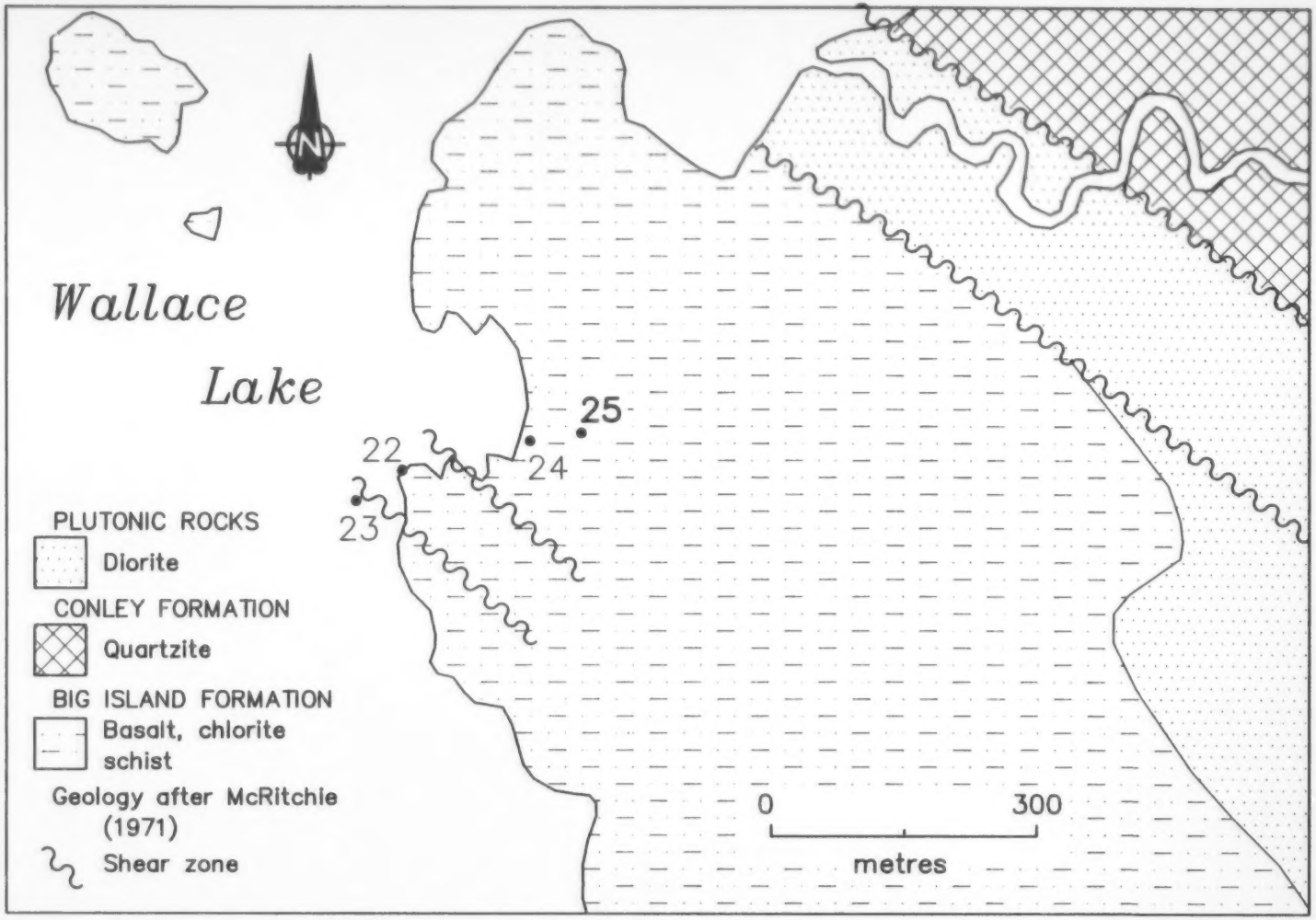


Figure 25-1: Geological setting of occurrence 25.

LOCATION: 25

NAME:

UTM: 5653448N/336805E

ACCESS: Via Wallace Lake. The mineralized zone occurs approximately 0.2 km east of Location 20.

AREA: West Wallace Lake (Fig. 25-1).

AIRPHOTO: A24670-92

EXPLORATION SUMMARY:

A trench (5x2x1.5 m) was observed on this site in 1985. The area is currently staked and in good standing until April 1992.

GEOLOGICAL SETTING:

The area is underlain by an approximately 2 m thick layer of Big Island Formation magnetite-chert iron formation and basalt crosscut by centimetre-thick discontinuous quartz veins.

MINERALIZATION:

Approximately 1% disseminated pyrite occurs in the quartz veins.

GEOCHEMICAL DATA:

A grab sample of pyrite-bearing vein quartz assayed 454 ppb Au.

CLASSIFICATION:

Vein type deposit.

REFERENCE:

Gaba R.G.

1985: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; In Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

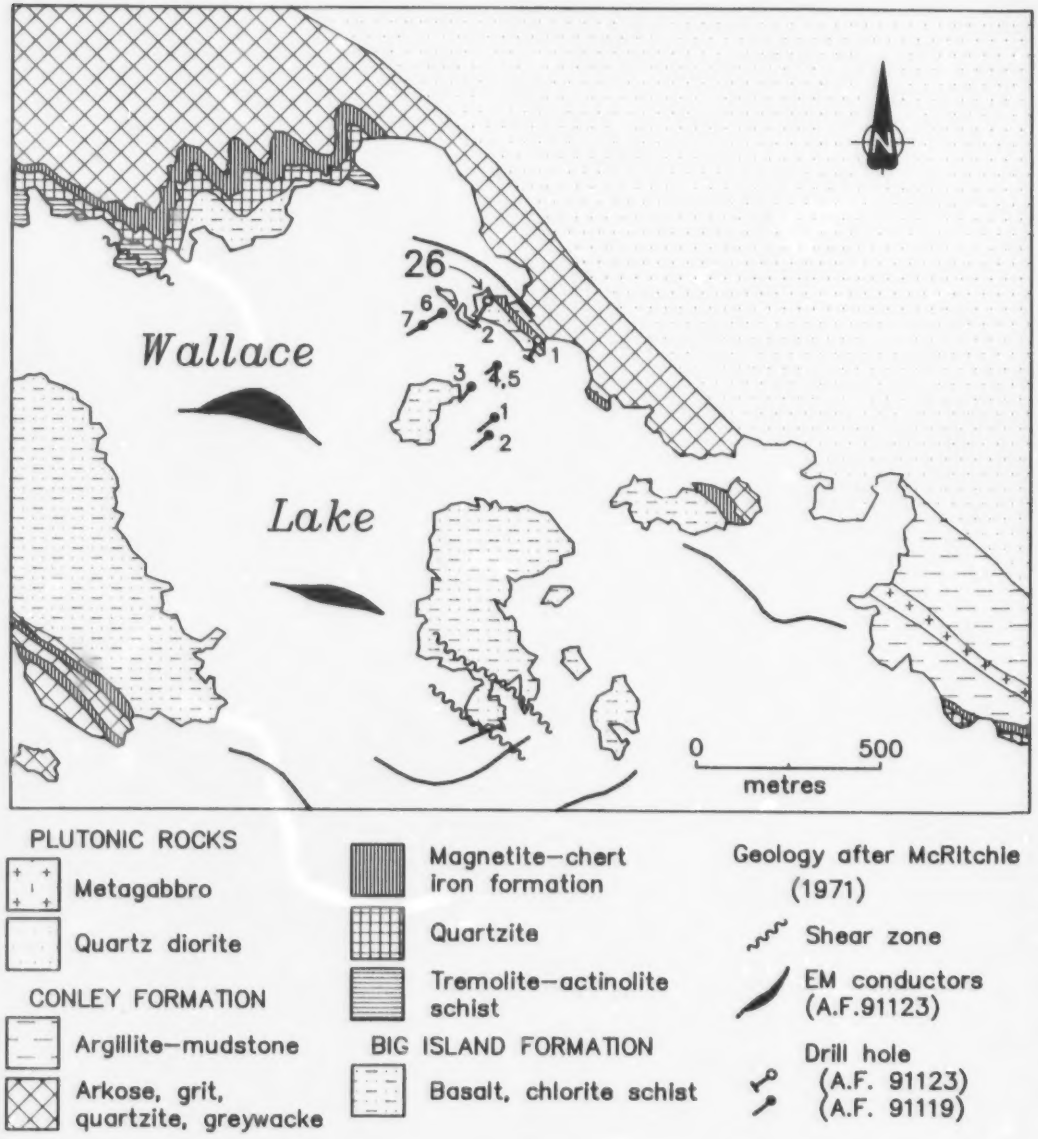


Figure 26-1: Geological setting of occurrence 26.

LOCATION: 26

NAME: (Iron Formation, Spacemaster) (A. F. Mineralization intersected by diamond drilling)

UTM: 5655319N/335517E

ACCESS: Via Wallace Lake. The occurrence is located on the northeast shore.

AREA: Northeast Wallace Lake (Fig. 26-1).

AIRPHOTO: A24670-91

EXPLORATION SUMMARY:

A small part of the extensive iron formation underlying Wallace and Siderock lakes was staked in 1957 as the Bar group of claims by W.J. Conley Jr. and explored with seven drill holes (180 m) in 1958 (A.F. 91119). The claims were cancelled in 1962 and restaked in 1963 over a larger area north and northwest of Siderock Lake. This property was assigned to Spacemaster Minerals Limited. Imperial Oil Enterprises Limited, after optioning the ground in 1969, initiated exploration with a ground EM survey (A.F. 91122) followed by a 9 hole diamond drilling program (A.F. 91123). Results from two of these holes (DDH 1 and DDH 2) are included in the description of this location; the remainder of the drill hole data are reported in Location 27. The claims were cancelled in 1972 and 1973, following cancellation of the option in 1971. The area is currently staked and in good standing until April 1992. The area is currently staked and in good standing until February 1992.

GEOLOGICAL SETTING:

The area is underlain by Big Island Formation basalt and Conley Formation bedded arkose, greywacke, amphibolite, diorite and silicate facies iron formation. Outcrops of silicate facies iron formation were also observed in the northwest Wallace Lake area (Fig. 26-1).

Drill holes by W.J. Conley Sr. (Fig. 26-2) intersected:

DDH 1: 32 m quartz diorite and diorite.

DDH 2: 15.8 m diorite and 9.4 m gneiss.

DDH 3: 34.4 m quartz diorite and diorite.

DDH 6: 3 m silicate facies iron formation and 22.5 m diorite.

DDH 7: 35.3 m diorite (A.F. 91119).

Drilling by Imperial Oil Enterprises Limited in 1969 (Fig. 26-1) intersected:

DDH 1: 49.7 m sheared greywacke, quartz-biotite schist and amphibolite.

DDH 2: 62.5 m amphibolite, quartz-biotite schist and sheared greywacke (A.F. 91123).

MINERALIZATION:

Mineralization intersected in the holes drilled by W.J. Conley Sr. included:

DDH 1: "some pyrrhotite and chalcopyrite" in quartz diorite.

DDH 3: "some pyrrhotite and chalcopyrite".

DDH 6: "some pyrite and narrow graphite stringers" in iron formation.

DDH 7: pyrite and arsenopyrite in 30 cm of diorite (A.F. 91119).

Holes drilled by Imperial Oil Enterprises Limited intersected:

DDH 1: A 5.7 m long section of minor pyrite in quartzite interlayered with graphitic schist and greywacke.

DDH 2: A 10.5 m long section of minor pyrite and nearly solid pyrrhotite layers up to 2 cm thick in quartzite.

GEOCHEMICAL DATA:

A grab sample of magnetite-chert iron formation assayed 30.2% total Fe indicating an Fe content of 10 to 15% over the entire thickness of the iron formation (Weber and McRitchie, 1972).

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCES:

Assessment Files 91119, 91122, 91123
Manitoba Energy and Mines, Minerals Division.

Weber, W and McRitchie
1972: The Project Pioneer experience: A basis for future endeavors; Manitoba Energy and Mines, Geological Paper GP1/72, 11p.

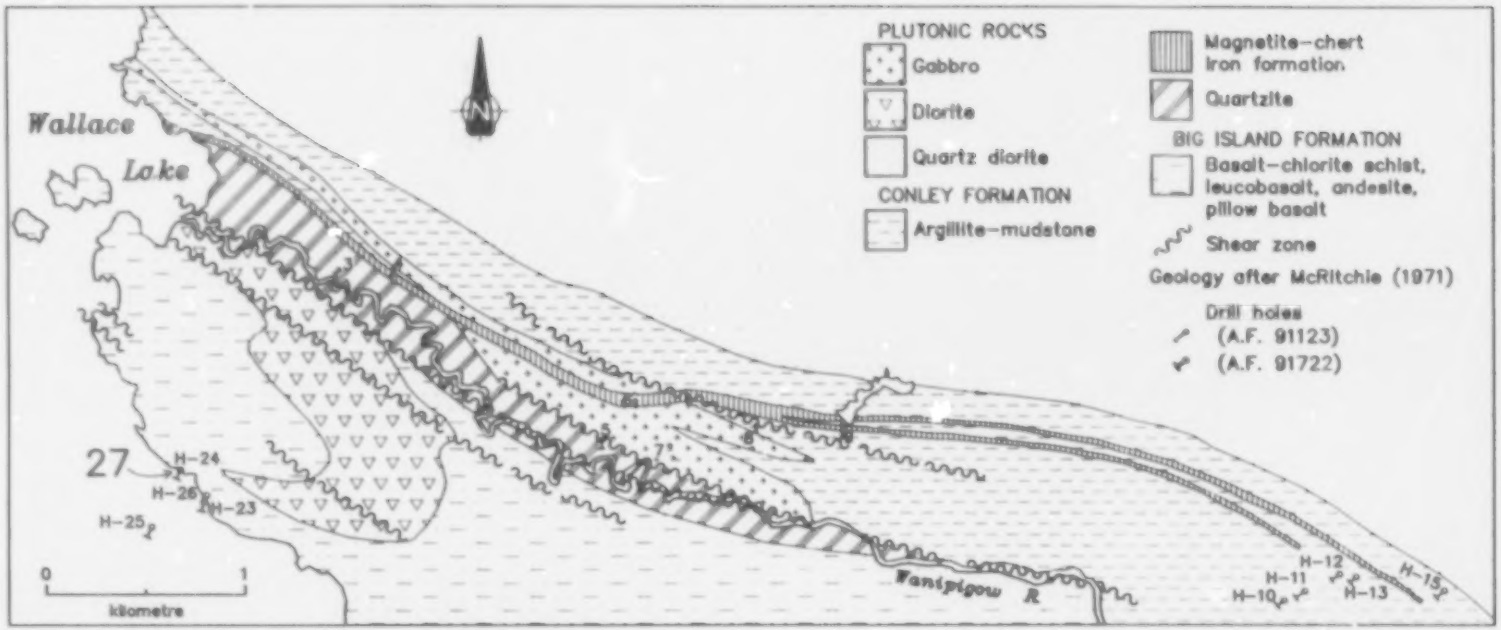


Figure 27-1: Geological setting of occurrence 27.

LOCATION: 27

NAME: (A. F. Mineralization intersected by diamond drilling)

UTM: 5652420N/337068E

ACCESS: Via Wallace Lake and Wanipigow River.

AREA: East Wallace Lake to Siderock Lake (Fig. 27-1).

AIRPHOTO: A24709-223

EXPLORATION SUMMARY:

Imperial Oil Enterprises Limited optioned ground in the Wallace Lake and Siderock Lake area in 1969, and initiated a ground EM survey (A.F. 91122) and a 9-hole diamond drilling program (A.F. 91123). Data for DDH 1 and 2 are included in the description for location 26; the remainder of the data is included in the description for this location. The option was cancelled in 1971, followed by cancellation of the claims in 1972 and 1973.

Manitoba Mineral Resources Limited, in partnership with Granges Exploration Aktiebolag, carried out airborne EM, ground HLEM and drilled four holes between 1972 and 1975 in the Siderock Lake area (A.F. 91722). Drill core remnants from DDH H-7, H-12, and H-13 and several core trays with illegible markings were salvaged and are stored by Manitoba Energy and Mines in Winnipeg. The area is currently staked and in good standing until June 1992.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation basalt, thinly bedded arkose, greywacke, amphibolite, diorite and minor iron formation.

Imperial Oil Enterprises Limited drill holes intersected (Fig. 27-1):

DDH 3: 35.6 m sheared greywacke and chlorite schist.

DDH 4: 58.5 m sheared greywacke, minor iron formation and altered gabbro.

DDH 5: 64.3 m sheared greywacke, minor iron formation and chlorite schist.

DDH 6: 46.6 m chlorite schist, altered gabbro and two layers of iron formation.

DDH 7: 95.4 m sheared greywacke, iron formation and chlorite schist.

DDH 8: 45.1 m greywacke and iron formation.

DDH 9: 98.7 m amphibolite , greywacke and iron formation (A.F. 91123).

A drill program by Manitoba Minerals Resources Limited in 1974 and 1975 (A.F. 91722), concentrated on southwest Wallace Lake (Grid H-1, 4 DDH, 249 m) and north of Siderock Lake (Grid H-2, 9 DDH, 746 m) (Fig. 27-1).

These drill holes intersected:

DDH H-6: 64 m of quartzite and siltstone.

DDH H-7: 106 m of quartzite, siltstone and magnetite-chert iron formation.

DDH H-8: 69 m of siltstone and quartzite.

DDH H-9: 60 m of siltstone and quartzite.

DDH H-10: 75 m of siltstone and quartzite.

DDH H-11: 133 m of siltstone and quartzite.

DDH H-12: 84 m of siltstone and quartzite.

DDH H-13: 105 m of siltstone, quartzite and magnetite-chert iron formation.

DDH H-15: of mafic and felsic volcanic rocks.

DDH H-23: 54 m of rhyolite and a 13 cm thick layer of solid graphite;

DDH H-24: 59 m of rhyolite with sporadic graphite.

DDH H-25: 32 m of graphitic tuff that contained from 20% to 60% graphite.

DDH H-26: 60 m of rhyolite and andesite.

MINERALIZATION:

Imperial Oil Enterprises Limited drill holes intersected the following mineralization:

DDH 3: A 12.5 m section of minor pyrite in graphitic schist interlayered with greywacke and quartz stringers.

DDH 4: A 5.1 m section of stringers and blebs of pyrite and pyrrhotite in sheared greywacke, chlorite schist and quartzite.

DDH 5: A 4.5 m section of pyrite stringers in iron formation.

DDH 6: A 2.6 m section of pyrite stringers in iron formation.

DDH 7: A 0.6 m section of up to 1.5 cm thick stringers of pyrite and pyrrhotite in iron formation; a 5 cm thick, near solid pyrrhotite layer. A 10.4 m section with pyrrhotite and a 1.8 m section of iron formation containing pyrite and pyrrhotite stringers.

DDH 8: A 7.9 m section of pyrite stringers.

DDH 9: A 6.1 m section of pyrite stringers; a 15.9 m section with stringer to near solid pyrrhotite and moderate amounts of pyrite and a 18.3 m section with abundant pyrite and pyrrhotite in greywacke and quartzite (A.F. 91123).

Mineralization intersected in holes drilled by Manitoba Mineral Resources Limited:

DDH H-6: A 11.7 m section of up to 5% pyrrhotite.

DDH H-7: A 14 m section of up to 10% pyrite partially replaced by pyrrhotite hosted by quartzite.

DDH H-8: Up to 4 m sections with up to 20% pyrrhotite in sedimentary rock layers.

DDH H-9: A 0.6 m section of up to 20% pyrite and up to 5% pyrite stringers in two thin layers.

DDH H-10: Up to 3 m thick sections with up to 10 % pyrrhotite in quartzite and siltstone.

DDH H-11: Minor pyrrhotite and traces of chalcopyrite.

DDH H-12: Up to 20 % pyrrhotite in a 3 m thick quartzite layer.

DDH H-13: Up to 60 % pyrrhotite in 0.3 m thick layers of quartzite.

DDH H-15: Up to 20 % pyrite in a 3 m thick felsic flow.

DDH H-23: Up to 5% pyrite and layers of solid graphite.

DDH H-24: A 3.3 m section of "solid" (60%) pyrite.

DDH H-25: Up to 5% pyrite in stringers and cubes.

DDH H-26: Solid graphite and pyrite layers (A.F. 91722).

GEOCHEMICAL DATA:

Most of the core drilled by Manitoba Mineral Resources Limited assayed from nil to trace Au with the exception of a few samples that contained 300 ppb Au (A.F. 91722).

Fifty-seven grab and core samples from the Wallace Lake and Siderock Lake iron formation collected by Manitoba Energy and Mines staff, were assayed for Au. Most samples contained Au concentrations below the detection limit of the assay method (<12 ppb); the highest Au concentration was 23 ppb (Theyer and Gaba, 1986).

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation with scattered sulphidized areas.

REFERENCES:

Assessment Files 91122, 91123, 91722
Manitoba Energy and Mines, Minerals Division.

Theyer, P. and Gaba, R.G.
1986: Mineral deposit investigations in the Rice Lake greenstone belt; in Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1986, p. 120-124.

LOCATION: 28

NAME: Schmirf
UTM: 5654492N/334422E
ACCESS: Via Wallace Lake.

AREA: Central Wallace Lake (Fig. 28-1).
AIRPHOTO: A24710-48

EXPLORATION SUMMARY:

A six-hole (296.2 m) drilling program was conducted by Schmirf Exploration Limited in 1984 to test the potential for gold mineralization along approximately 100 m of the contact between volcanic and sedimentary rocks at Wallace Lake (A.F. 92664). The drill core from this project is stored by Manitoba Energy and Mines in Winnipeg. The area is currently staked and in good standing until September 1994.

GEOLOGICAL SETTING:

The area of the occurrence is partially underlain by Big Island Formation volcanic rocks, including massive to layered, fine- to coarse- grained intermediate tuff and basalt and Conley Formation silicate facies iron formation and detrital rocks including greywacke, chert, arkose, siliceous limestone and calcareous wacke occur southeast of the volcanic suite. The detrital rocks are characterized by well-defined laminae and local slump structures (Fig. 28-1).

DDH SH-1 intersected 51 m of mafic to intermediate tuff.

DDH SH-2 intersected 45 m mafic to intermediate tuff and a 2 m thick layer of magnetite-chert iron formation.

DDH SH-3 (47.8 m long) intersected a repetitive sequence of mafic to intermediate tuff and iron formation.

DDH SH-4 (46 m long) intersected mafic tuff, iron formation and carbonaceous arkose, marble, chert and siliceous limestone.

DDH SH-5 (48.2 m long) intersected a sequence of mainly sedimentary rocks, including clayey and cherty rock layers alternating with felsic tuff.

DDH SH-6 (57.3 m long) intersected a sequence of mafic to felsic volcanic rocks and minor arkose.

MINERALIZATION:

DDH SH-2 intersected quartz-carbonate veins and a 2.1 m section of oxide facies iron formation; below this iron formation there is approximately 10 m of mafic tuff interdigitated with pyrite-bearing sulphide facies iron formation.

DDH SH-3 intersected 8.5 m of mafic to intermediate tuff with trace pyrite. A 1.5 m section of banded iron formation contained "some" pyrite. Pyrite "bands" and magnetite laminae occur between 33.9 m and 42.0 m in mafic to felsic tuff, ash and chert. From 42.0 m to 45.5 m, recrystallized felsic tuff contains laminae and erratic concentrations of pyrite.

DDH SH-4 intersected mafic tuff with "some" sulphide minerals at 6.92 m, a sequence of banded iron formation with laminae and layers of pyrite from 7.19 m to 23.5 m, a 2.5 cm thick pyrite layer at 24.4 m depth and 21 m of pyrite in a carbonate sequence.

DDH SH-5 intersected a sequence of banded chert, marble and felsic tuff with abundant pyrite laminae.

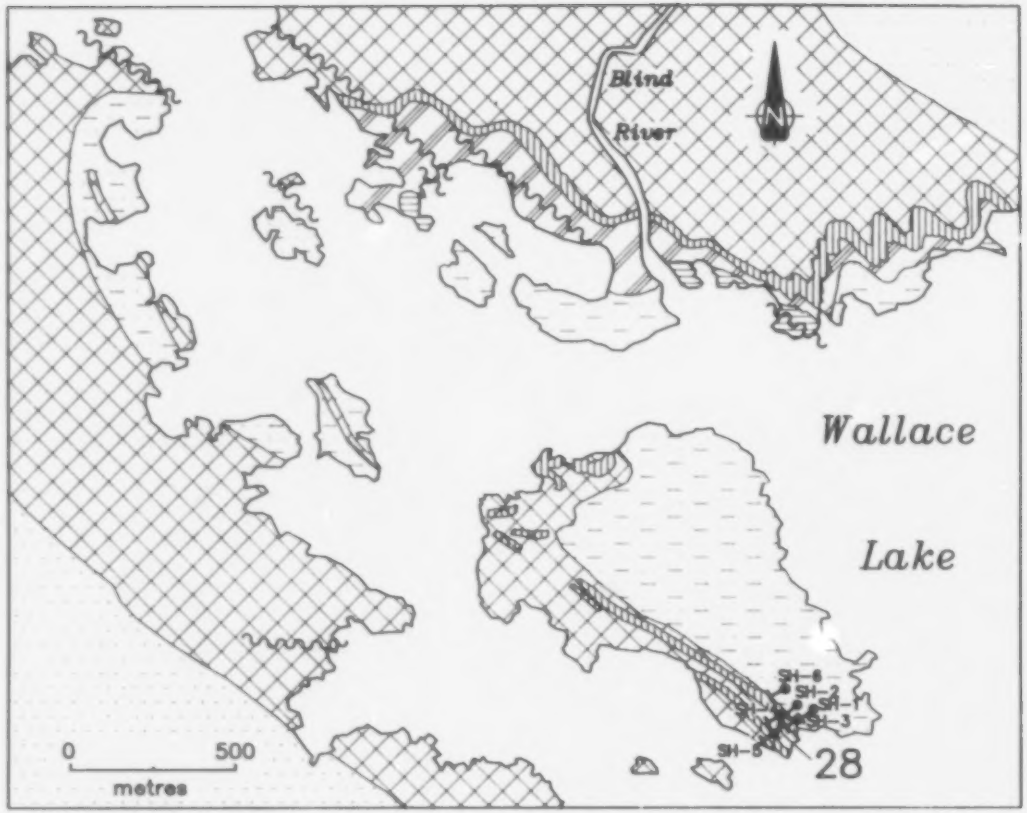
DDH SH-6 intersected numerous thin pyrite laminae in intermediate tuff between 13.2 m and 13.9 m depth, banded iron formation without sulphide mineralization between 13.9 m and 14.4 m, and a zone of abundant pyrite laminae in chert and mafic to felsic tuff between 41.3 m and 49.7 m (A.F. 92664).

CLASSIFICATION:

Chemical sediment type deposit; oxide facies iron formation.

REFERENCE:

Assessment File 92664
Manitoba Energy and Mines, Minerals Division.



PLUTONIC ROCKS

Quartz diorite

CONLEY FORMATION

Arkose, grit, quartzite, greywacke, conglomerate

Magnetite–chert iron formation

Quartzite, sandstone, siltstone

Tremolite–actinolite schist

BIG ISLAND FORMATION

Basalt–chlorite schist, pillow basalt

Shear zone

Geology after McRitchie (1971)

Drill hole (A.F. 92664)

Figure 28-1: Geological setting of occurrence 28 (Schmirl).

LOCATION: 29

NAME: Smoky; (Smoky #1, Smoky #2, Smoky East.)
UTM: 5656023N/331795E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 29-1)
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

Three clusters of quartz veins discovered in 1983 were sporadically prospected by W.J. Conley Jr. The area is currently staked and in good standing until March 1995.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation arkose, quartzite and greywacke, intruded by dioritic to gabbroic rocks.

Smoky #1 consists of east-striking quartz veins up to 3 cm thick. Smoky #2 is a single quartz vein. Smoky East consists of more than sixty east-striking quartz veins, generally less than 2 cm thick, in an area measuring approximately 170 by 100 m (W.J. Conley Jr., 1985).

MINERALIZATION:

Smoky #1 is described as "fairly rich in chalcopyrite". Mineralization in Smoky #2 was not described. Quartz veins in Smoky #3 contain trace pyrite, chalcopyrite, arsenopyrite, stibnite and visible gold. W.J. Conley Jr. observed that stibnite is commonly associated with visible gold (W.J. Conley Jr., 1985).

GEOCHEMICAL DATA:

Four grab samples from Smoky #1 contained traces of visible gold in panning tails.

Smoky #2 contained visible gold on initial panning, but failed to produce gold in later pannings.

Thirteen grab samples from Smoky East returned visible gold in panning tailings. (W.J. Conley Jr., 1985).

CLASSIFICATION:

Vein type deposit; multiple quartz veins.

REFERENCE:

Conley W.J. Jr.

1985: Report of work on Snufy W 44479, Eagle, D2, Excelsior; Manitoba Energy and Mines, unpublished notes.

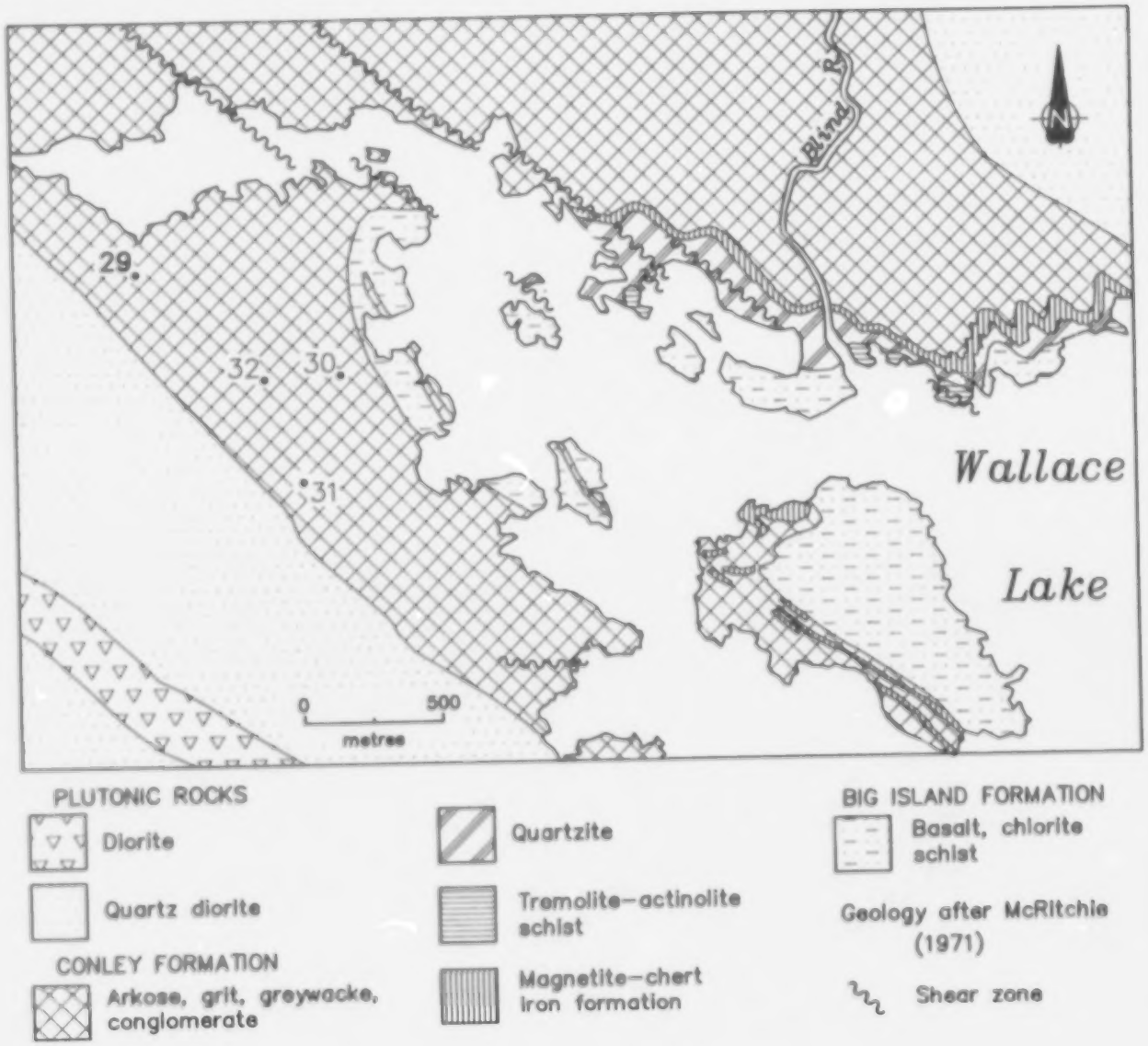


Figure 29-1: Geological setting of occurrence 29 (Smoky).

LOCATION: 30

NAME: Eagle
UTM: 5655638N/332509E
ACCESS: Via Wallace Lake.

EXPLORATION SUMMARY:

Six pits expose quartz veins that were found and prospected by W.J. Conley Jr. in 1984. The area is currently staked and in good standing until September 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation sedimentary rocks and minor intermediate to mafic intrusive rocks transected by a set of four subparallel, southwest-striking quartz-bearing shear zones that terminate against a major northwest-striking lineament. Shear E 1 is 36 cm thick and exposed for 130 m along strike. Shear E 2 is 0.5 m thick and exposed for 135 m along strike. Shear E 3 is 30 cm thick and exposed for 25 m along strike. Shear E 4 is approximately 1 m thick and exposed over 40 m (W.J. Conley Jr., 1985).

AREA: Northwest Wallace Lake (Fig. 30-1).
AIRPHOTO: A24712-51

MINERALIZATION:

The quartz vein contains minor pyrite, galena, and molybdenite.

GEOCHEMICAL DATA:

The E 2 quartz vein contained traces of visible gold in panning tailings (W.J. Conley Jr., 1985).

CLASSIFICATION:

Vein type deposit; multiple quartz veins in shears.

REFERENCE:

Conley W.J. Jr.
1985: Report of work on Snufy W 44479, Eagle, D2, Excelsior; Manitoba Energy and Mines, unpublished notes.

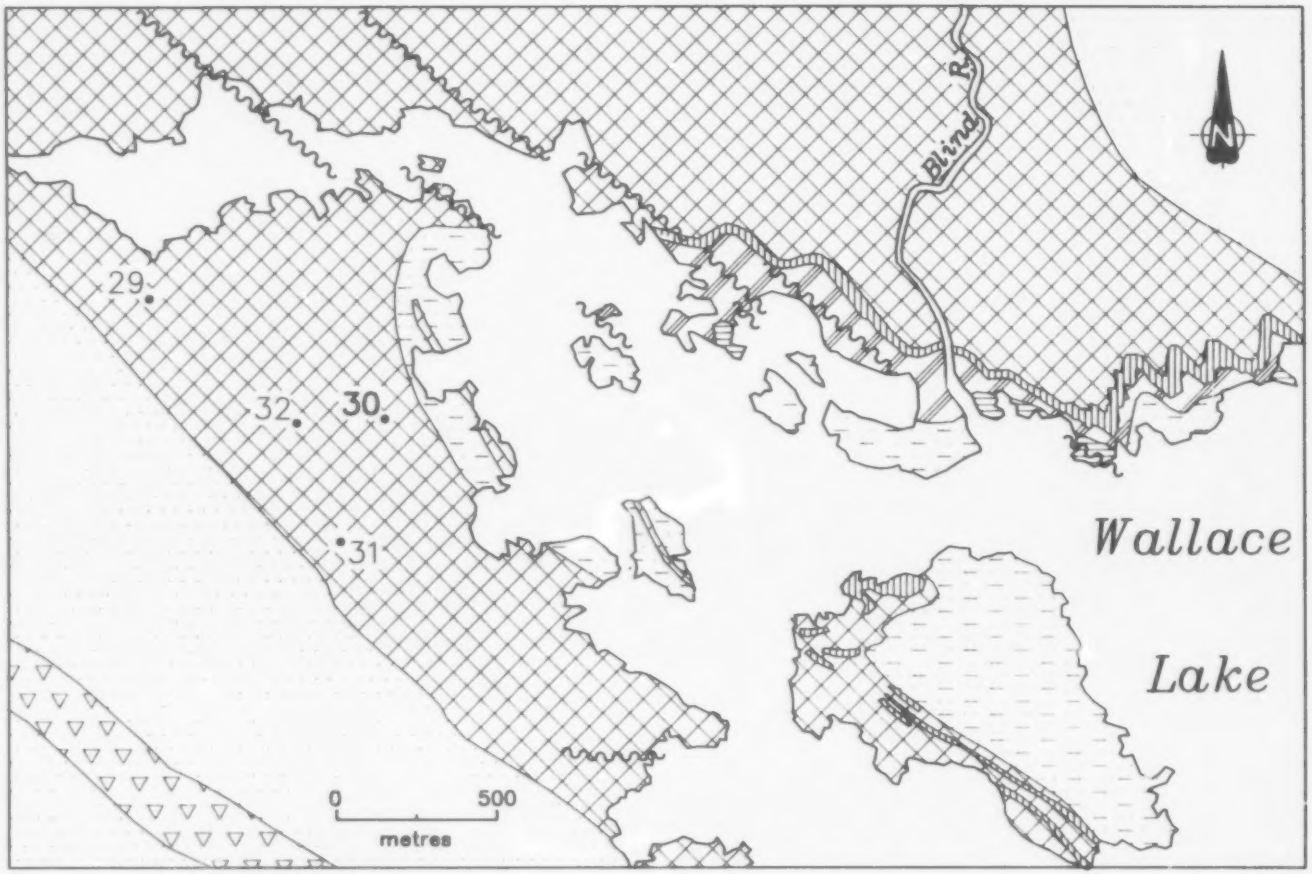


Figure 30-1: Geological setting of occurrence 30 (Eagle).

LOCATION: 31

NAME: D 2
UTM: 5655282N/332377E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 31-1)
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

A group of quartz veins was found, prospected, trenched and sampled by W.J. Conley Jr. in 1984. The area is currently staked and in good standing until June 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation sedimentary rocks and minor intermediate to mafic intrusive rocks. This occurrence consists of cm-thick disrupted quartz veins in an approximately 0.7 m thick and 120 m long fractured and silicified rock layer.

MINERALIZATION:

The quartz veins contain trace to minor disseminated sphalerite, pyrite and galena.

GEOCHEMICAL DATA:

A 0.75 m long channel sample returned visible gold in gold panning tailings (W.J. Conley Jr., pers. comm., 1990).

CLASSIFICATION:

Vein type deposit; multiple quartz veins.

REFERENCE:

Conley W.J. Jr.

1985: Report of work on Snufy W 44479, Eagle, D2, Excelsior; Manitoba Energy and Mines, unpublished notes.

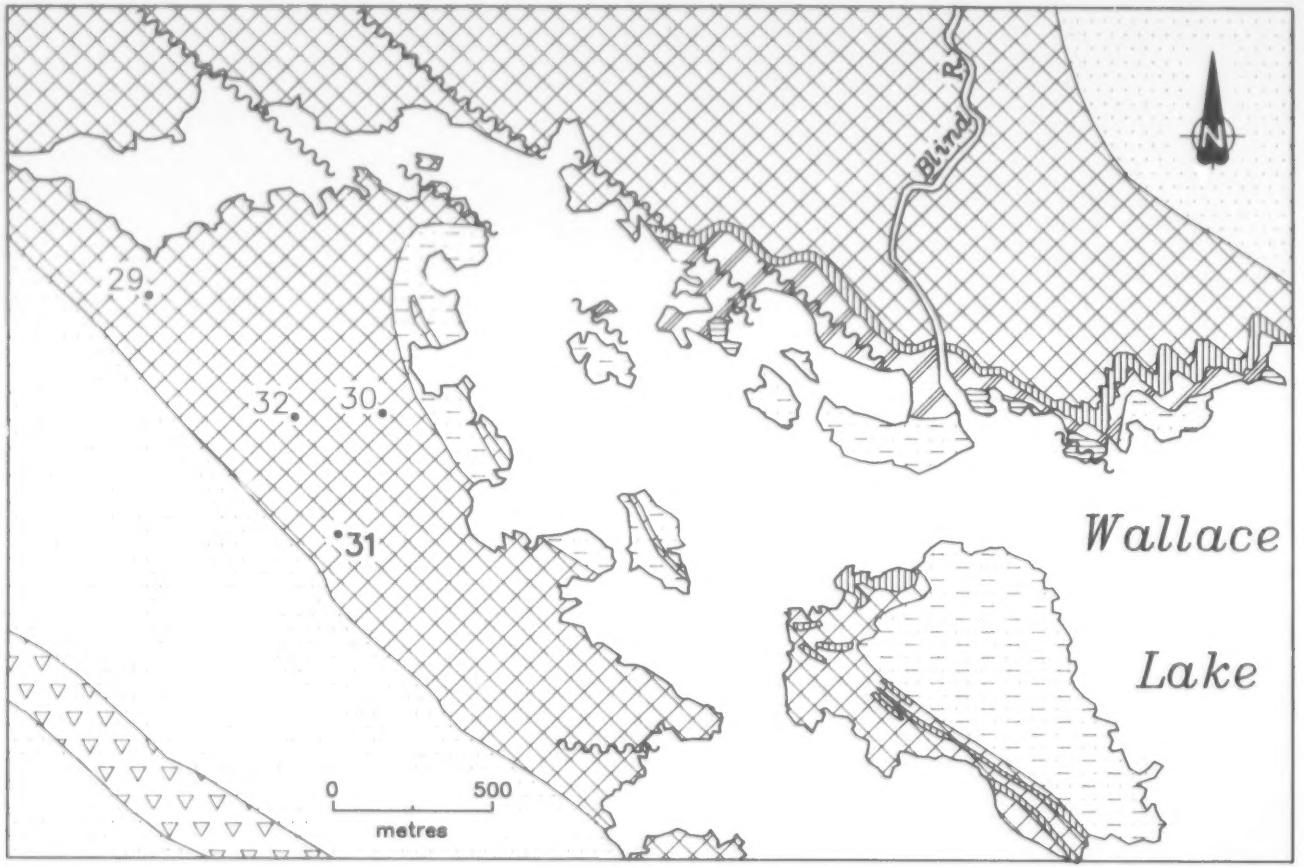


Figure 31-1: Geological setting of occurrence 31 (D 2).

LOCATION: 32

NAME: Excelsior
UTM: 5655626N/332245E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 32-1).
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

A group of quartz veins was found, prospected, trenched and sampled by W.J. Conley Jr. in 1984. The area is currently staked and in good standing until June 1994.

GEOLOGICAL SETTING:

The area is underlain by carbonatized arkose and greywacke. There are approximately ten east-striking subparallel shear zones hosting minor discontinuous quartz veins arranged in a northerly direction and two short, poorly mineralized north- striking quartz veins.

MINERALIZATION:

The host rocks to the Excelsior quartz veins contain traces of pyrite, galena and molybdenite.

GEOCHEMICAL DATA:

Twenty-one grab samples from pits at this location returned nil to trace Au and nil Ag assays. Two samples contained 1.0 and 2.7 g/t Au and 9.6 and 48.8 g/t Ag (W.J. Conley Jr., 1985).

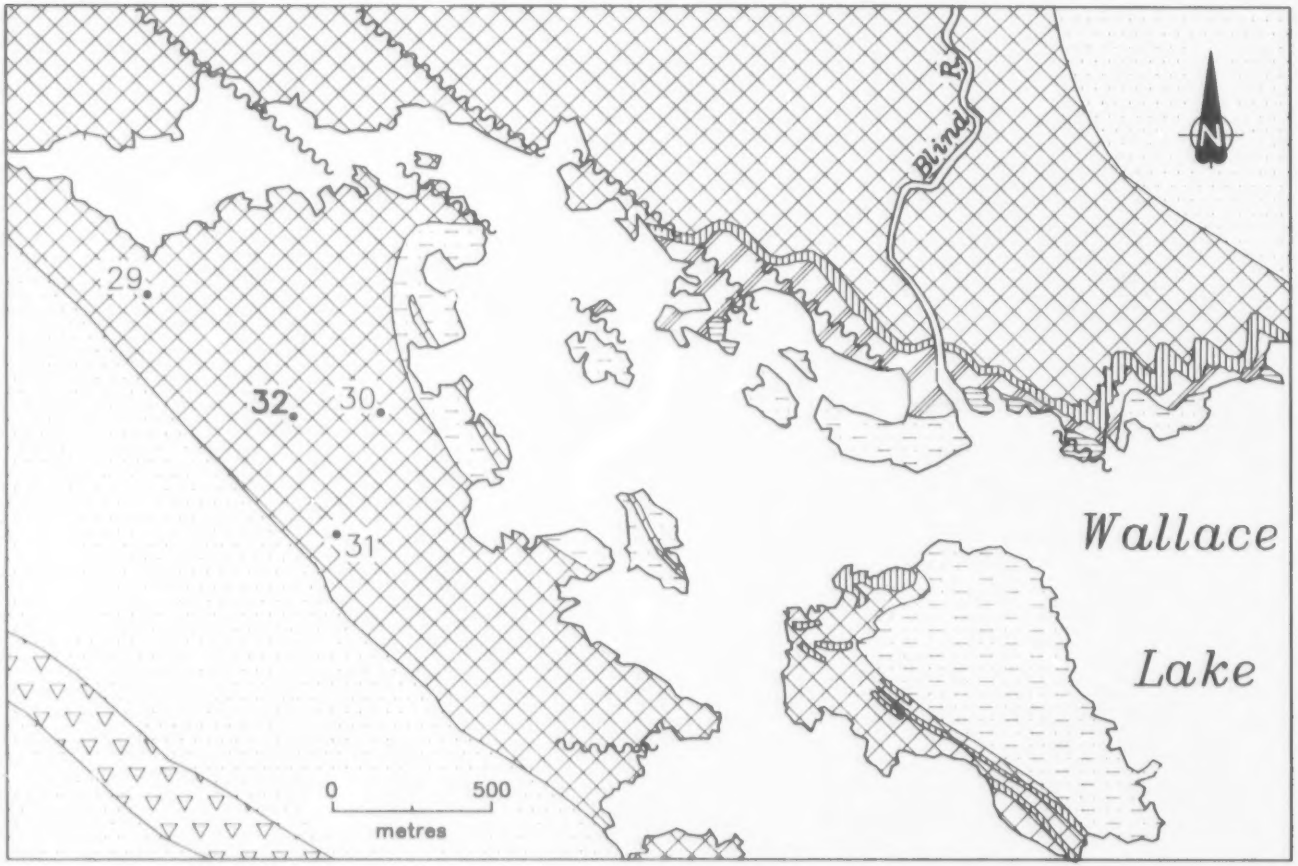
CLASSIFICATION:

Vein type deposit; multiple quartz veins hosted in sheared and fractured sedimentary rocks.

REFERENCE:

Conley W.J. Jr.

1985: Report of work on Snufy W 44479, Eagle, D2, Excelsior; Manitoba Energy and Mines, unpublished notes.



PLUTONIC ROCKS

Diorite

Quartz diorite

CONLEY FORMATION

Arkose, grit, greywacke, conglomerate

Quartzite

Tremolite–actinolite schist

Magnetite–chert iron formation

BIG ISLAND FORMATION

Basalt, chlorite schist

Geology after McRitchie (1971)

Shear zone

Figure 32-1: Geological setting of occurrence 32 (Excelsior).

LOCATION: 33

NAME: Alec
UTM: 5656696N/331265E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 33-1)
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

Quartz vein Alec #1 was found by Alec Bushie in 1965 and trenched by W.J. Conley Jr. in 1968. There are no historical data available regarding veins Alec #2 to Alec #6. The area is currently staked and in good standing until May 1994.

GEOLOGICAL SETTING:

The location plot of these quartz veins is based on a rough drawing and may thus be only approximate; the nature of the underlying rocks was not described (Fig. 33-1) (W. J. Conley Jr., 1983).

Alec #1, explored with five pits, is a quartz-bearing shear, 3 to 15 m thick and 300 m long.

Alec #2, explored with four pits, is a 0.6 to 1.2 m thick and 120 m long quartz-bearing shear zone.

Alec #3, investigated with three pits, is a 0.6 to 1.2 m thick and 100 m long quartz-bearing shear zone.

Alec #4, explored with four pits, is a 0.3 to 1 m thick and 75 m long quartz-bearing shear zone.

Alec #5 is a 0.3 m thick and 330 m long shear zone.

Alec #6 is a 0.3 m thick and 30 m long quartz vein.

MINERALIZATION:

Alec #2 contains "some galena" (W.J. Conley Jr., 1983).

GEOCHEMICAL DATA:

Grab samples of the Alec #1 returned visible gold in panning tails. Grab samples of Alec #2, Alec #3 and Alec #4 contained traces of gold (W.J. Conley Jr., 1983).

CLASSIFICATION:

Vein type deposit; multiple quartz veins hosted in sheared and fractured sedimentary rocks.

REFERENCE:

Conley W.J. Jr.
1983: Report of work on Alec, Willi, Barney and Gatlan; Manitoba Energy and Mines, unpublished notes.

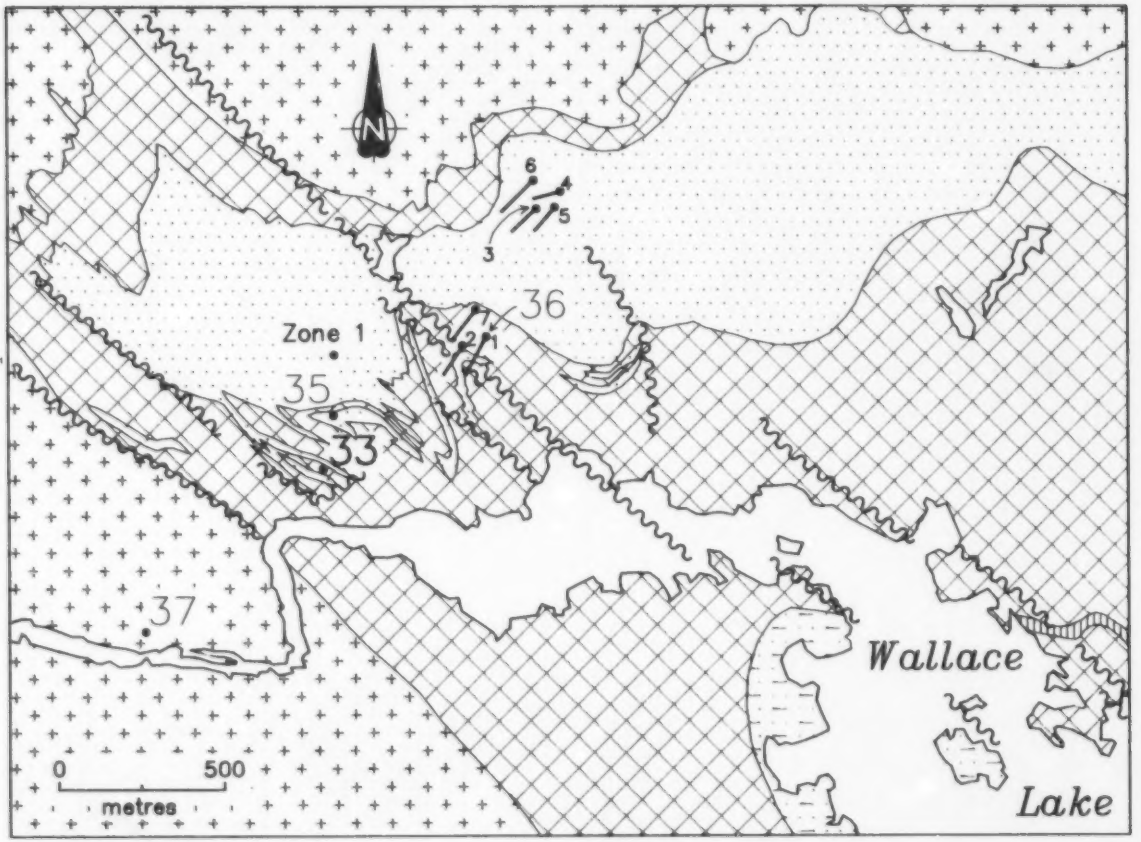


Figure 33-1: Geological setting of occurrence 33 (Alec).

LOCATION: 34

NAME: (A.F. - Mineralization intersected by diamond drilling)

UTM: 5656060N/333336E

ACCESS: Via Wallace Lake.

AREA: North Wallace Lake (Fig. 34-1).

AIRPHOTO: A24710-49

EXPLORATION SUMMARY:

A 17.7 m long diamond drill hole was drilled on claim Hope 21846 by W.J. Conley Jr. in 1958 (A.F. 91560). The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The drill hole intersected sheared "carbonate" (limestone?) and grey quartz (A.F. 91560).

MINERALIZATION:

Unquantified amounts of pyrite and chalcopyrite occur in "carbonate" and quartz.

CLASSIFICATION:

Disseminated mineralization - not classified

REFERENCE:

Assessment File 91560
Manitoba Energy and Mines, Minerals Division.

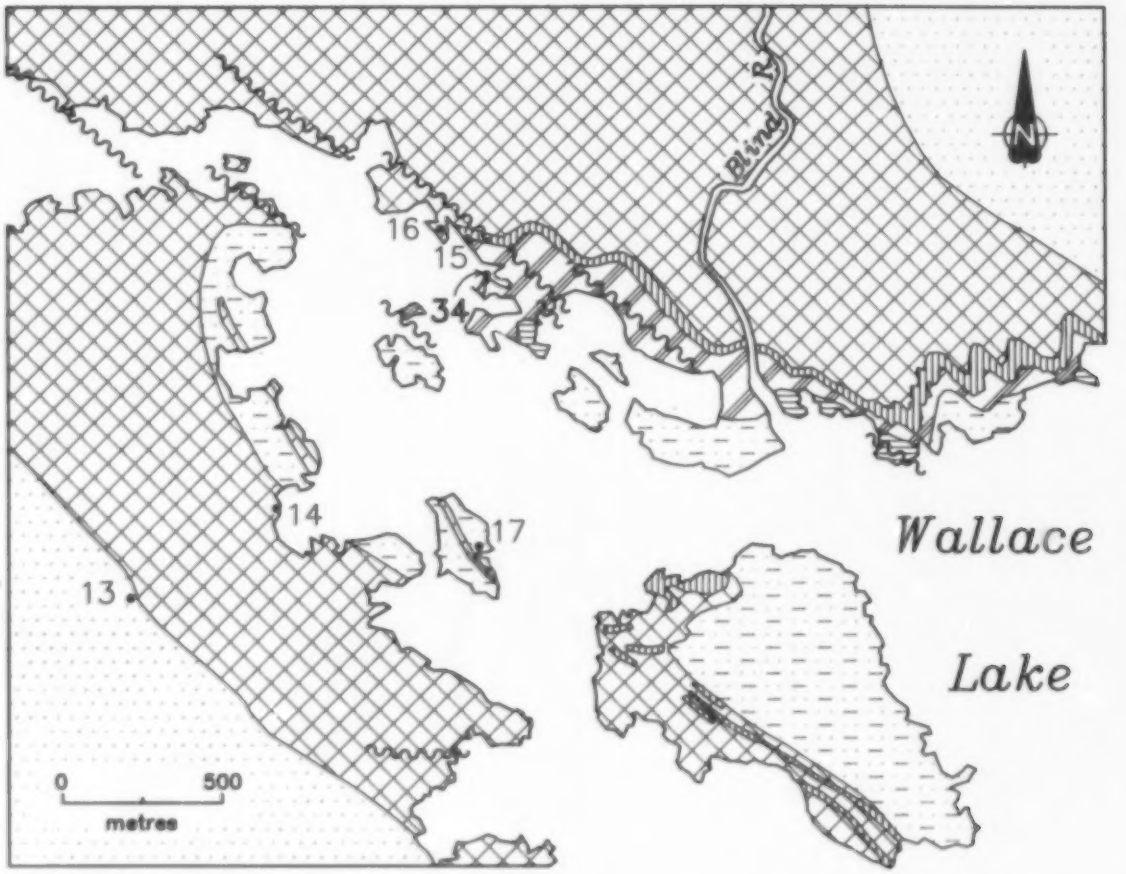


Figure 34-1: Geological setting of occurrence 34 (Hope).

LOCATION: 35

NAME: Willi
UTM: 5656820N/331303E
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 35-1)
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

W.J. Conley Jr. described an array of quartz veins exposed in two pits and one trench (W.J. Conley Jr., 1983). The area is currently staked and in good standing until May 1994.

GEOLOGICAL SETTING:

Willi #1 is a 0.4 m thick and 35 m long quartz vein. Willi #2 is a 1.2 to 2 m thick and 67 m long quartz-bearing shear zone that was investigated with one pit. Willi #3 is a 3 to 10 m thick and 60 m long quartz stockwork that was investigated with one pit.

Willi #4 is a 0.7 to 1.6 m thick and 230 m long quartz-bearing shear zone investigated with one trench (W.J. Conley Jr., 1983).

MINERALIZATION:

Willi #4 is mineralized with minor pyrite, sphalerite and galena.

GEOCHEMICAL DATA:

Willi #2 "contains no (gold) values". Willi #3 "contains no (gold) values". Willi #4 contained visible gold in panning tails (W.J. Conley Jr., 1983).

CLASSIFICATION:

Vein type deposit; multiple quartz veins in sheared and fractured rocks.

REFERENCE:

Conley W.J. Jr.

1983: Report of work on Alec, Willi, Barney and Gatlan; unpublished notes, on file with Manitoba Energy and Mines, Minerals Division.

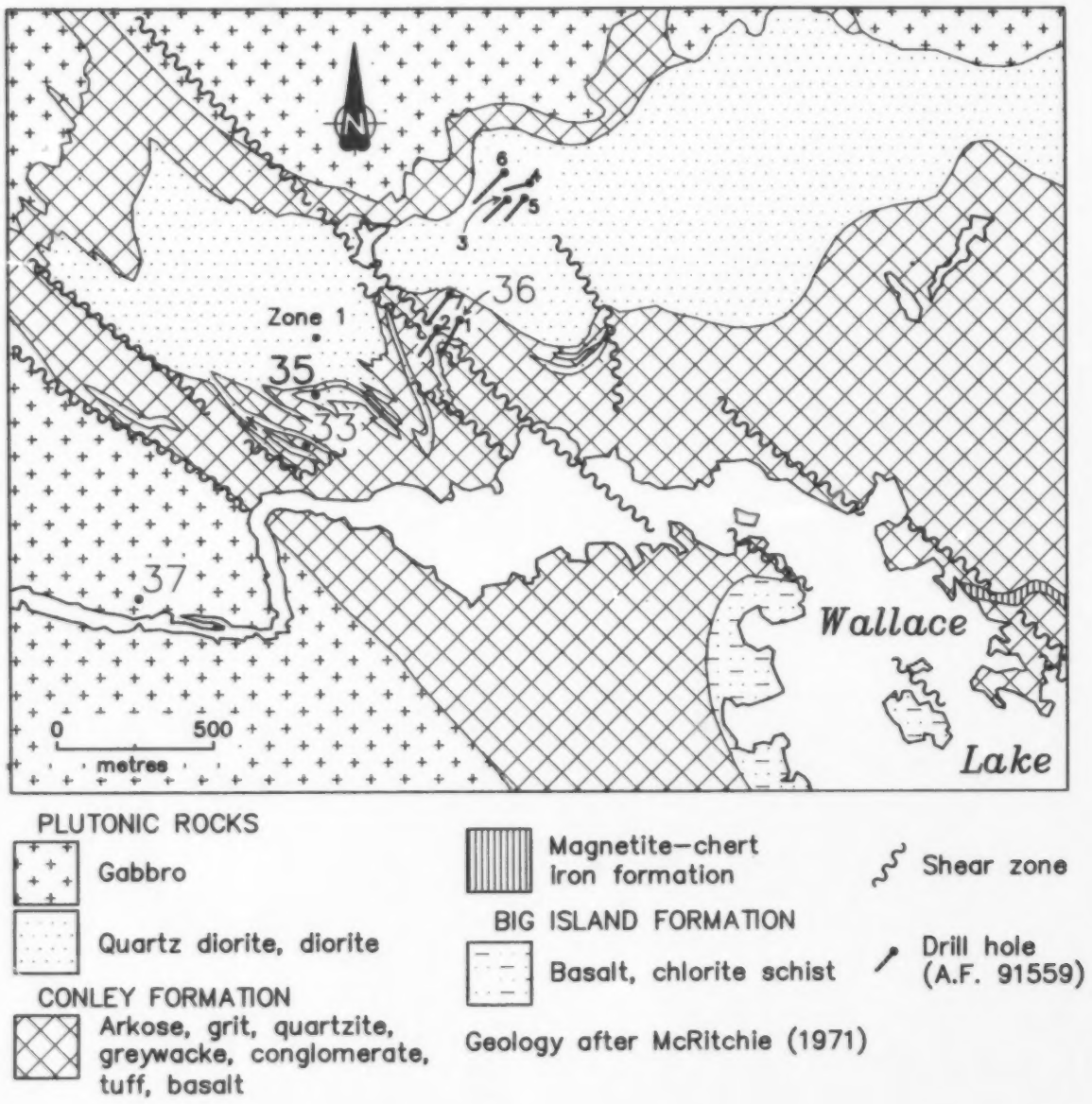


Figure 35-1: Geological setting of occurrence 35 (Willi).

LOCATION: 36

NAME: Crown
UTM:
ACCESS: Via Wallace Lake.

AREA: Northwest Wallace Lake (Fig. 36-1)
AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

The Crown prospect consists of an array of quartz veins found, prospected and trenched by W.J. Conley Sr. and W.J. Conley Jr., with the assistance of B. McGrath. The Crown #4 quartz vein was "found in the early 30's" (W.J. Conley Jr., pers. comm., 1990). Other quartz veins of this group were discovered and trenched between 1964 and 1968. Quartz veins Crown #1 and Crown #2 were intersected by three holes each by Kerr Addison Mines Limited in 1965 (A.F. 91559). Subsequently, they were sporadically prospected by W.J. Conley Jr. (W.J. Conley Jr., pers. comm., 1990). The area is currently staked and in good standing until July 1994.

GEOLOGICAL SETTING:

The area is underlain by Conley Formation sedimentary rocks with abundant dioritic and quartz dioritic interlayers.

MINERALIZATION:

The following are the highlights of a drilling program on veins Crown #1 and Crown #2 by Kerr Addison Mines Limited 1965 (A.F. 91559).

Crown #1 (Claim Crown 2).

DDH 1 intersected a "narrow pyrrhotite streak" and "occasional pyrrhotite-pyrite-chalcopyrite".

DDH 2 intersected chalcopyrite stringers.

DDH 7 intersected pyrite and chalcopyrite stringers and disseminated pyrite.

Crown #2 (Claim Crown 6).

DDH 3 intersected minor pyrrhotite on joint planes, sparse carbonate-pyrite (chalcopyrite) stringers and minor disseminated pyrite.

DDH 4 intersected greywacke with minor quartz-chlorite-carbonate stringers.

DDH 5 intersected greywacke, diorite and silicified porphyry with sparse pyrite and chalcopyrite stringers over approximately 1 m length at 17 m depth.

DDH 6 intersected diorite with sparse pyrite stringers.

The following are excerpts from W.J. Conley Jr., unpublished notes:

Crown 1 consists of discontinuous quartz veins in a west-trending zone approximately 2 m thick and 20 m long.

Crown 3 consists of a "small" quartz lense containing fine grained visible gold.

Crown 4 consists of a "narrow" (quartz) vein traced over 30 m.

Crown 6 is a 3 m long and 30 cm thick quartz vein. Panning of a crushed grab sample yielded a gold "tail" assessed at approximately 10 g/t.

Crown 10 is a quartz vein in granite adjacent to a contact with diorite. "Ore grade gold concentrations" (13.7 g/t) based on visual estimates of panning "tails" were recovered over approximately 60 m along strike.

Approximately 0.3 km west of Crown # 1 is zone 1 (Barney # 3) consisting of five pits blasted and sampled by W.J. Conley Jr. (W.J. Conley Jr., 1983). Zone 1 is underlain by quartz diorite that is host to a north-striking quartz vein.

GEOCHEMICAL DATA:

Samples of drill core from the Crown 1 vein contained gold concentrations ranging from trace to 33.2 g/t Au, but most samples assayed from trace to 1.3 g/t Au.

Drill core of Crown 2 returned nil to 21.6 g/t Au, but most of the samples contained trace to 1 g/t Au (A.F. 91557).

Panning of grab samples for gold in Zone 1 determined the occurrence of visible gold in one of the pits (W.J. Conley Jr., 1983).

CLASSIFICATION:

Vein type deposit.

REFERENCES:

Assessment Files 91557, 91559
Manitoba Energy and Mines, Minerals Division.

Conley W.J. Jr.
1983: Report of work on Alec, Willi, Barney and Gatlan; unpublished notes, on file with Manitoba Energy and Mines.

Gaba, R.G.
1985a: Mineral deposit investigations in the Wallace Lake-Siderock Lake area; in Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1985, p. 148-151.

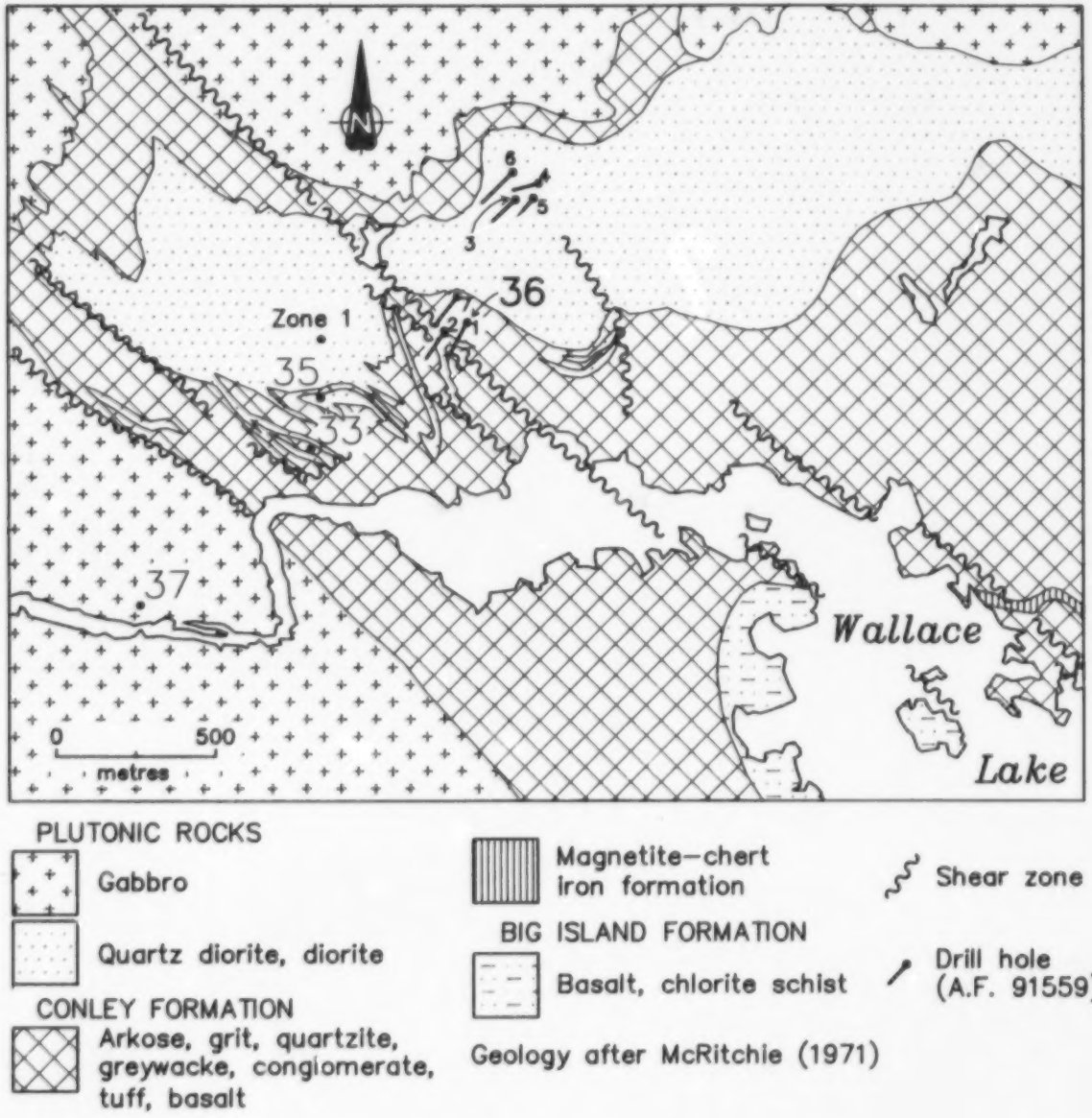


Figure 36-1: Geological setting of occurrence 36 (Crown).

LOCATION: 37

NAME: Pooky

UTM: 5656259N/330759E

ACCESS: Wallace Lake.

AREA: Northwest Wallace Lake-Wanipigow River (Fig. 37-1).

AIRPHOTO: A24712-51

EXPLORATION SUMMARY:

W.J. Conley Jr. observed quartz veins and staked the claim "Pooky" in 1984. The area is currently staked and in good standing until March 1994.

GEOLOGICAL SETTING:

The area is underlain by intermediate to mafic intrusive rocks, that are transected by east-striking quartz-bearing shear zones.

MINERALIZATION:

The quartz vein contains sulphide traces (W.J. Conley Jr., 1985).

GEOCHEMICAL DATA:

Three panned grab samples from this location yielded visible gold in the panning tails (W.J. Conley Jr., 1985).

CLASSIFICATION:

Vein type deposit; multiple veins or lenses.

REFERENCE:

Conley W.J. Jr.

1985: Report of work on Pooky W44483; unpublished notes, on file with Manitoba Energy and Mines.

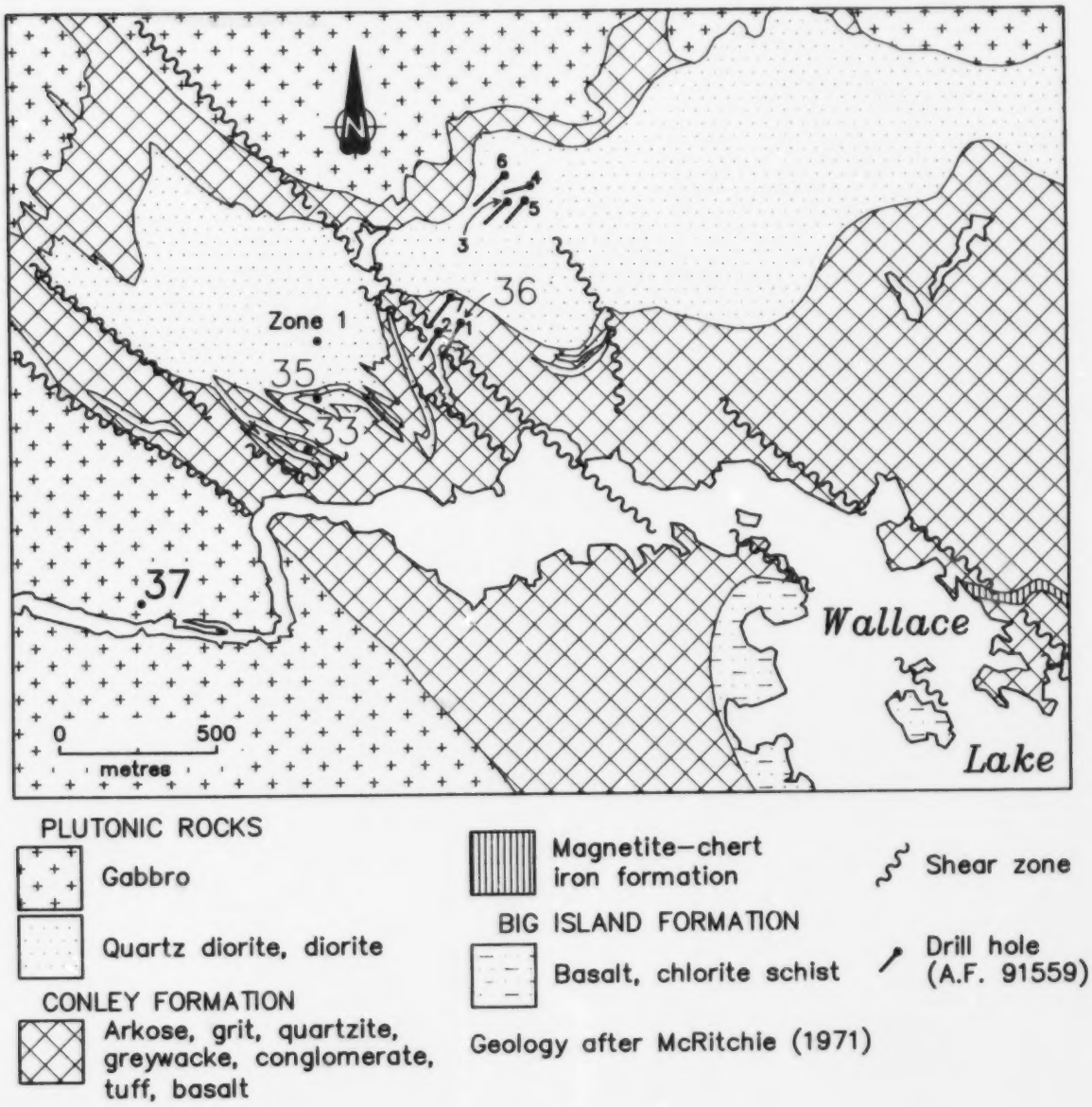


Figure 37-1: Geological setting of occurrence 37 (Pooky).

LOCATION: 38

NAME: IMP Group (A.F. - Mineralization intersected by diamond drilling).

UTM: 5652901N/330436E

ACCESS: Via Provincial Road 304 to Bennett Lake.

AREA: Bennett Lake (Fig. 38-1)

AIRPHOTO: A24712-49

EXPLORATION SUMMARY:

Manitoba Mineral Resources conducted an airborne EM survey (A.F. 91692) and a HLEM (EM-17) survey over the area in 1972. Four diamond drill holes totalling 221 m were drilled in 1973 (A.F. 92094). The area is currently staked and in good standing until April 1994.

GEOLOGICAL SETTING:

The area is underlain by members of the Rice Lake Group comprising The Narrows Formation dacitic to rhyodacitic pyroclastic rocks and the Edmunds Lake Formation greywacke, siltstone and silicate facies iron formation (Fig. 38-1).

DDH I-2 intersected a layer of thinly bedded, fine grained sedimentary rocks including greywacke and minor quartzite. A 6.1 m thick layer of oxide facies iron formation was also intersected.

DDH I-3 intersected felsic tuff, rhyodacite and altered quartzite interlayered with silicate facies iron formation.

DDH I-4 intersected greywacke and fine grained sedimentary rocks consisting mainly of amphibole.

DDH I-5 intersected greywacke, arkose and altered fragmental rock.

MINERALIZATION:

The following mineralization was intersected in the drill holes:

DDH I-2: 4.2 m of fine grained altered siliceous sedimentary rocks, grading in places into quartzites, with up to 50% pyrite.

DDH I-3: 1 to 2% pyrite in 26.2 m of felsic tuff and flows, increasing to 60% pyrite in 3 m of quartzite at 27 m depth, decreasing to 1 to 2% pyrite in quartzite, siltstone and greywacke for the balance of the drill hole.

DDH I-4: 5%, increasing to 20%, magnetite from 47.8 m to 52.1 m depth in altered amphibole-rich sedimentary rocks. Up to 10% pyrite in stringers and blebs over 0.5 m at 53 m depth.

DDH I-5: 5 to 10% pyrite in altered sedimentary rocks between 32.6 m and 34.6 m depth (A.F. 92094).

GEOCHEMICAL DATA:

A total of fifteen core samples were analyzed for Cu and Au. The samples contained trace Au and a maximum concentration of 0.05% Cu.

CLASSIFICATION:

Chemical sediment type deposit; sulphide facies iron formation.

REFERENCE:

Assessment Files 91692, 92094
Manitoba Energy and Mines, Minerals Division.

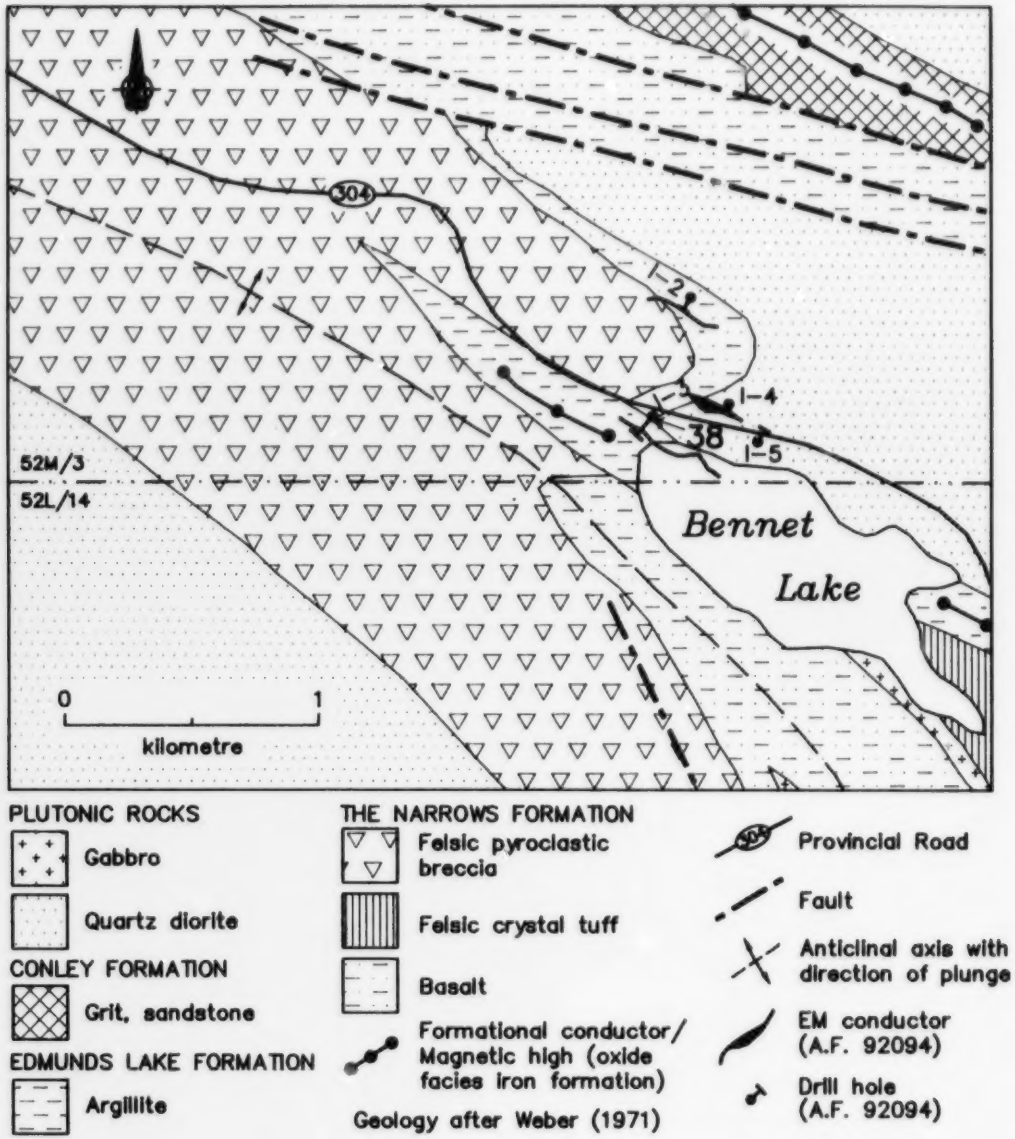
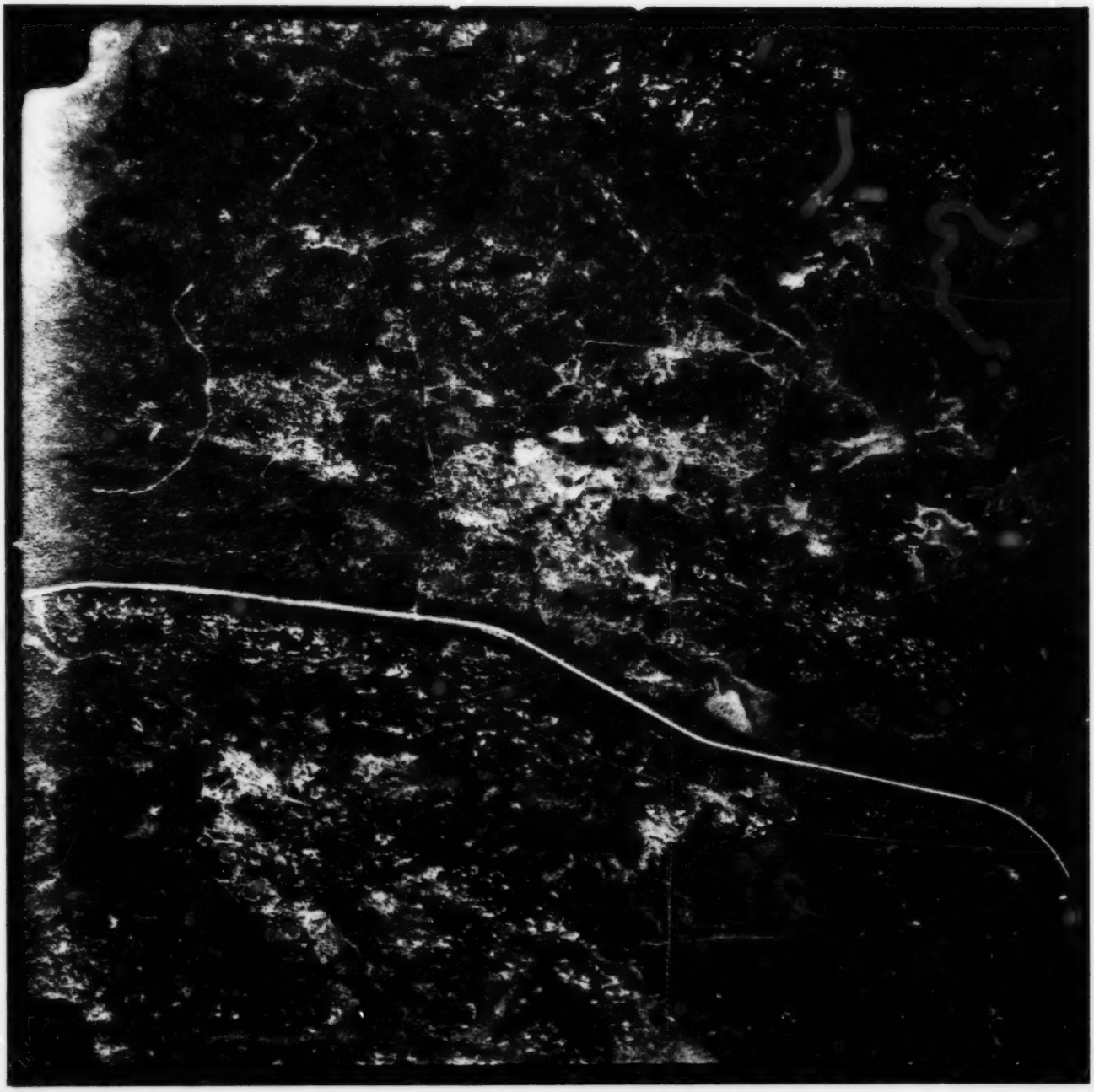
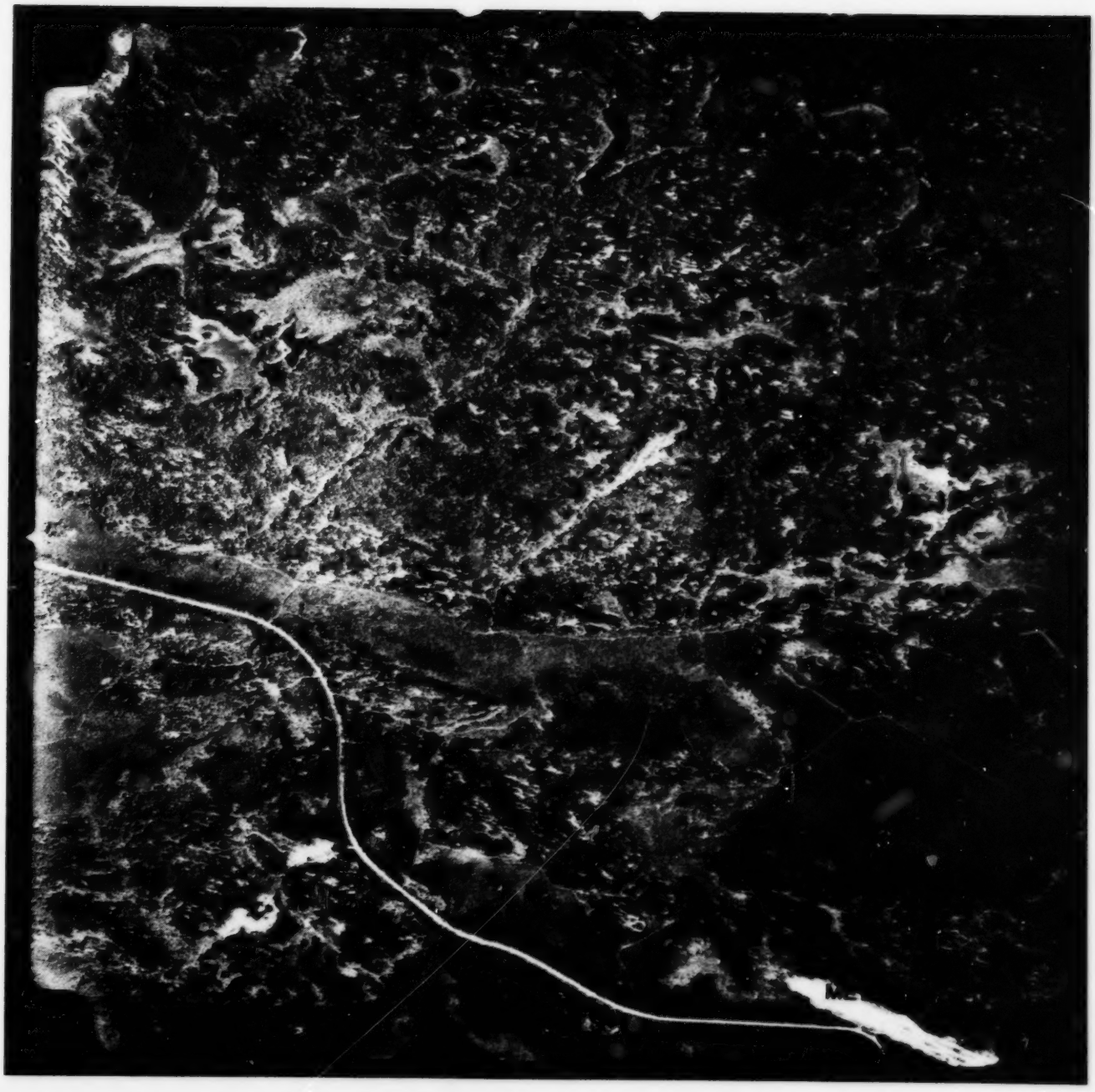
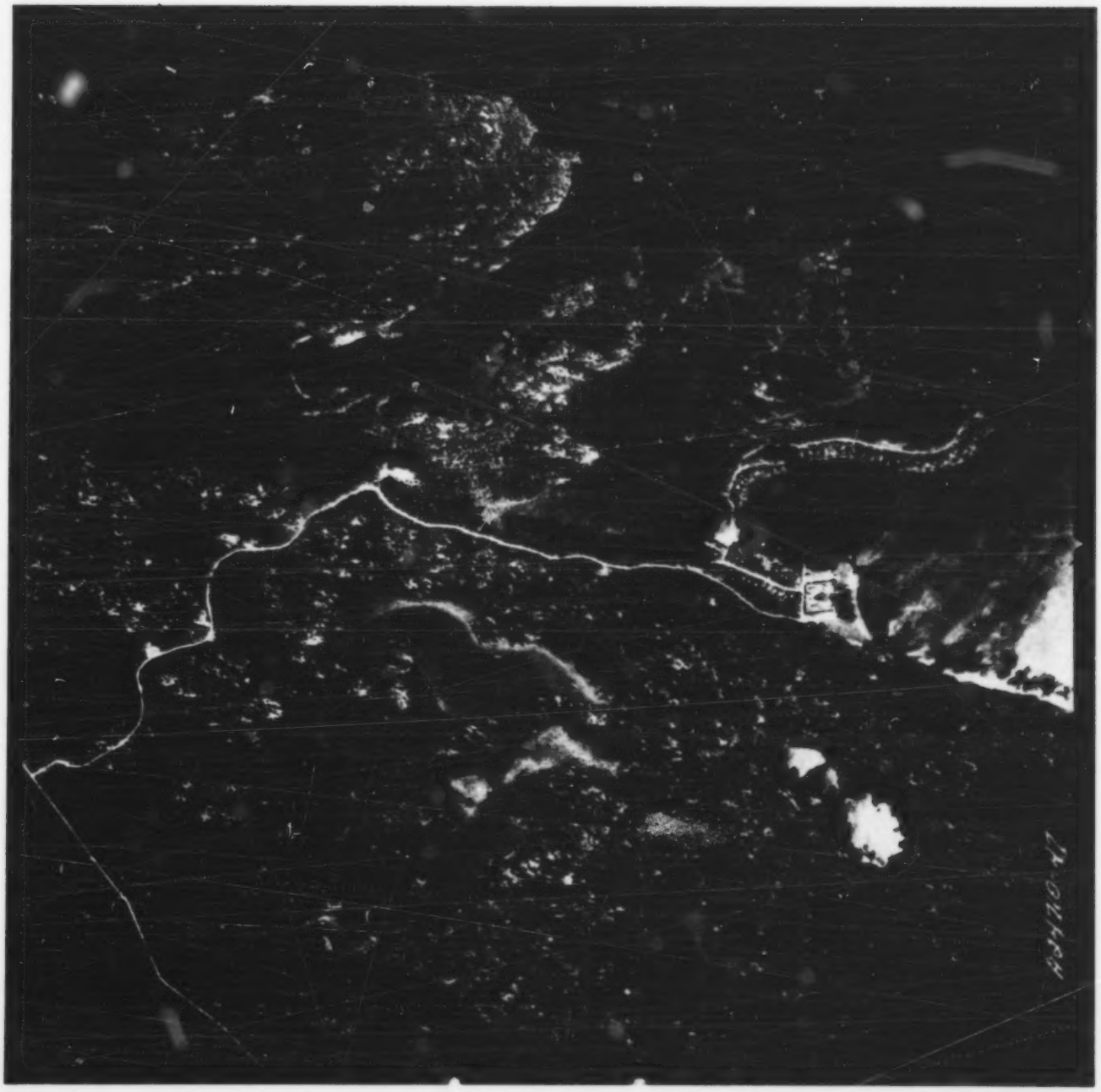


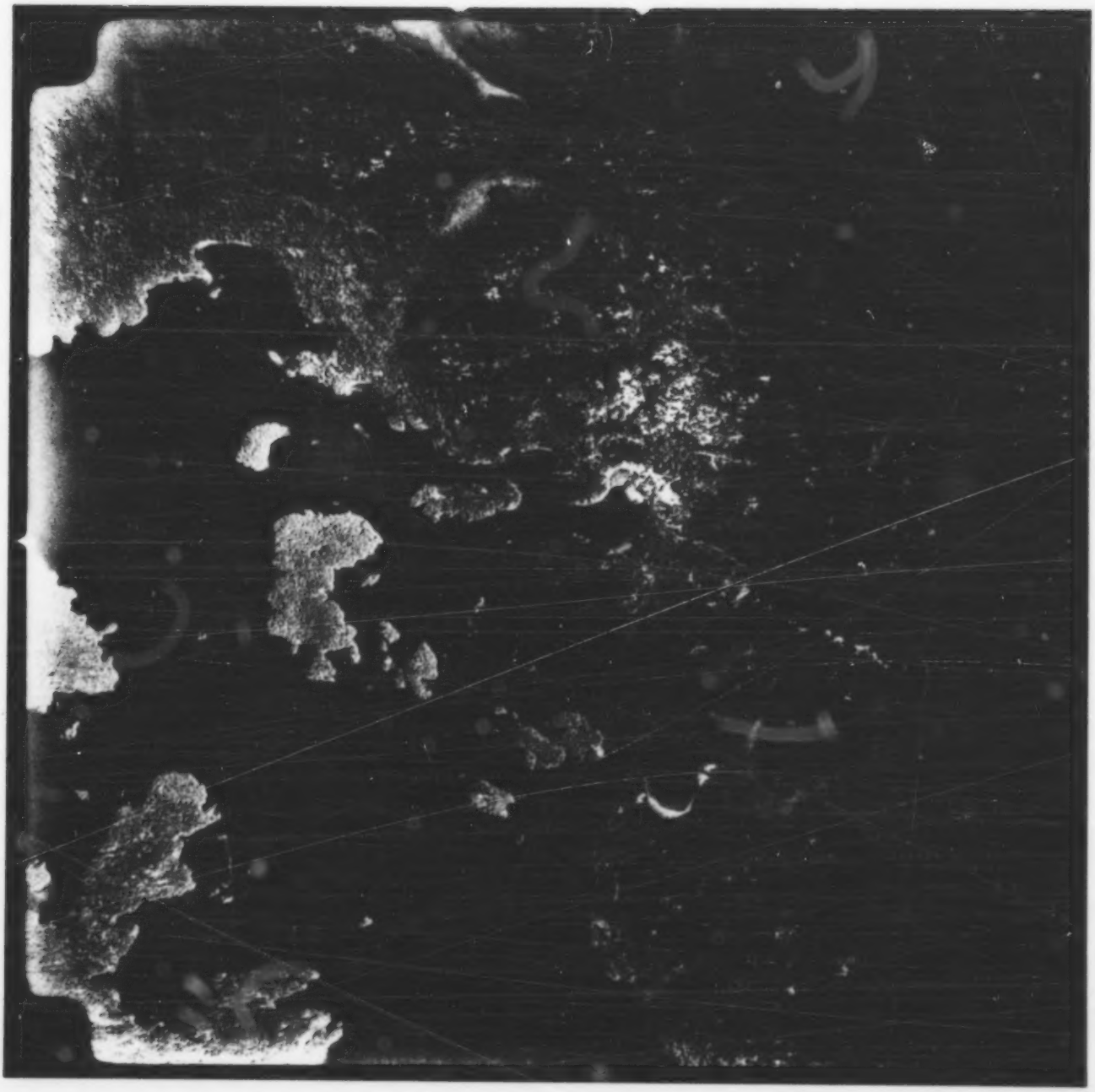
Figure 38-1: Geological setting of occurrence 38 (IMP).

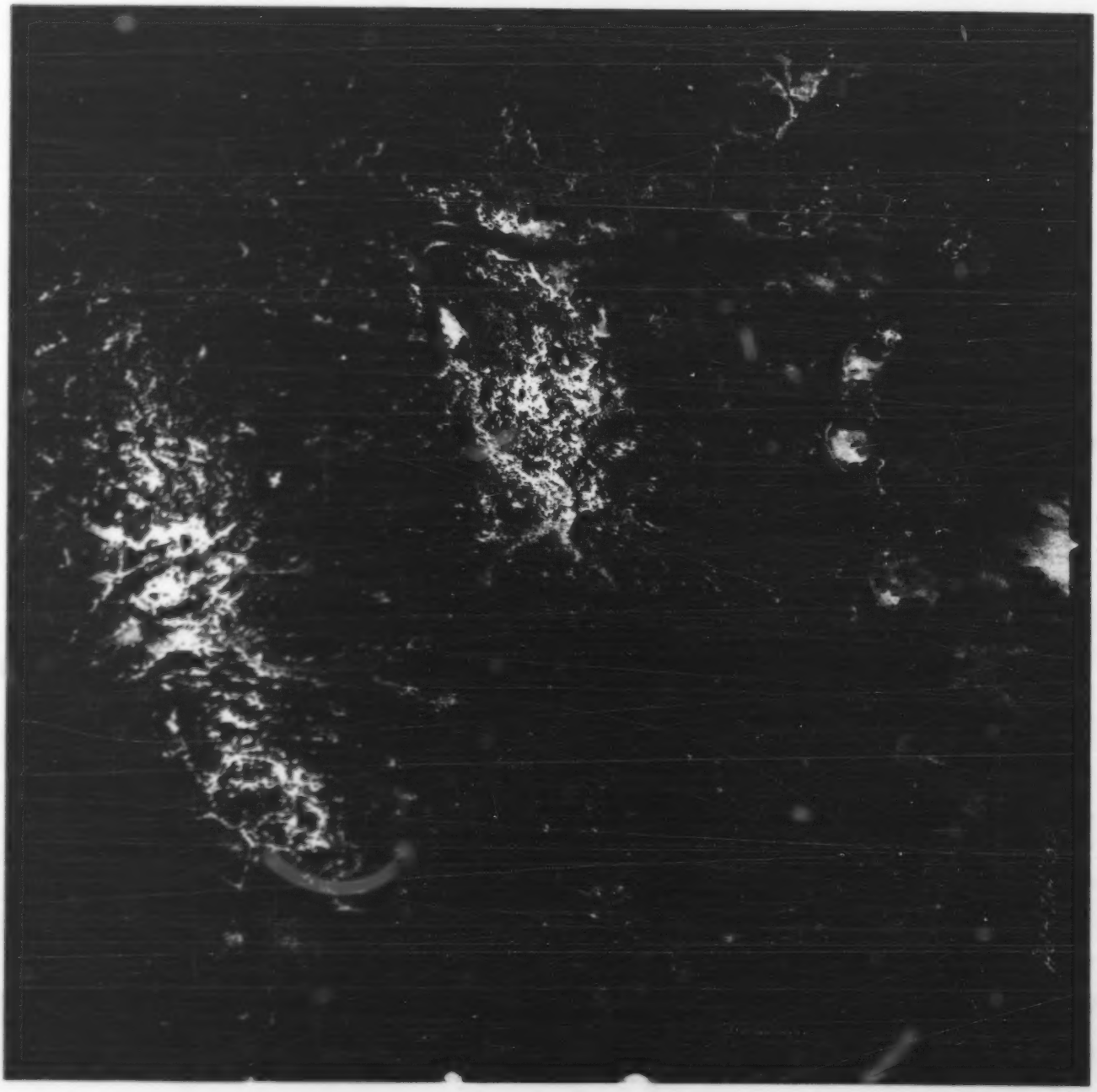
APPENDIX A

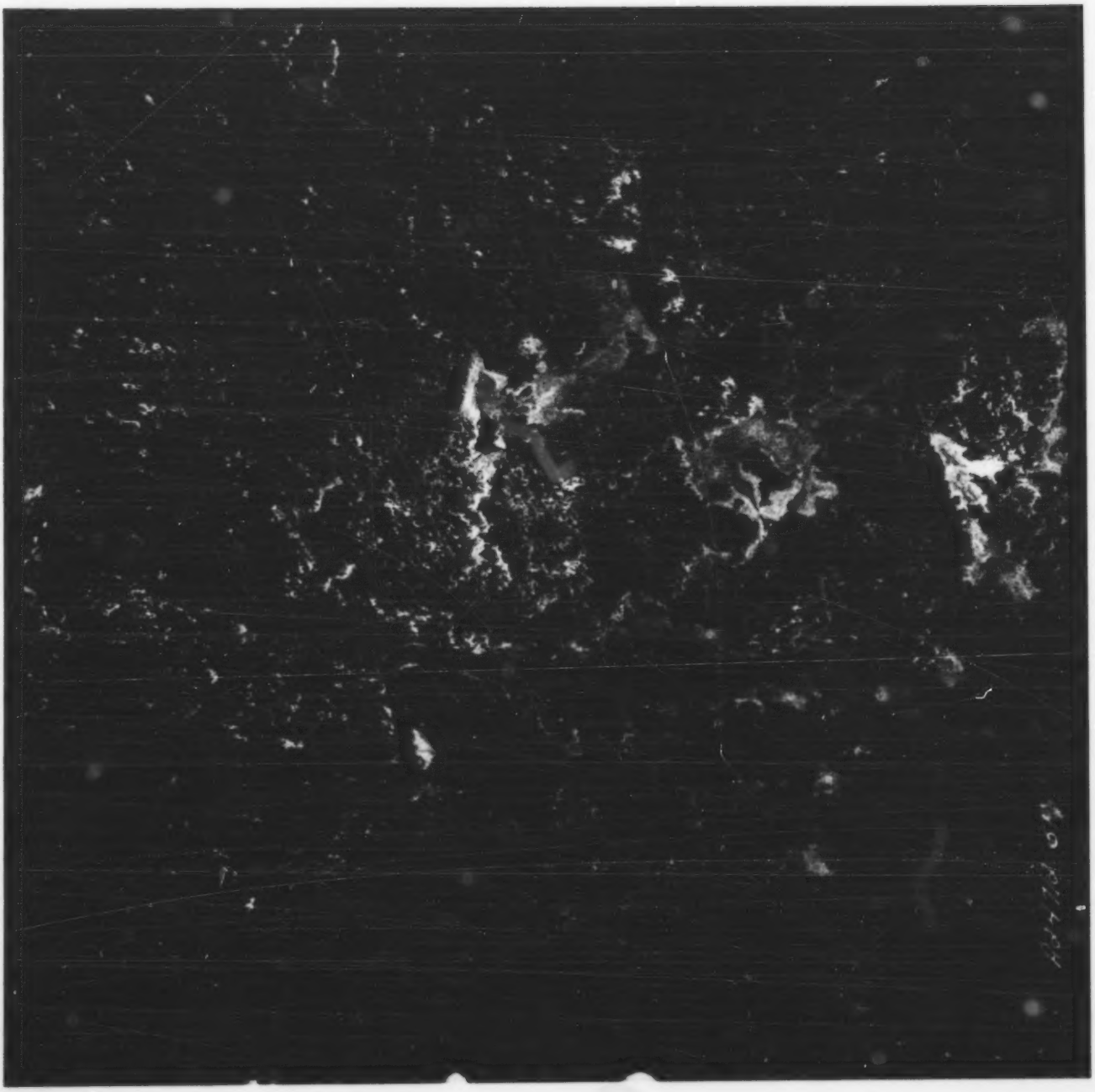












MAPS
NOT
FILMED

CARTES
OMISES